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Agriculture

Natural  
Resources  
Conservation  
Service

In cooperation with  
United States Department  
of Agriculture, Forest  
Service; Virginia  
Polytechnic Institute  
and State University;  
Virginia Department  
of Conservation and  
Recreation, Division  
of Soil and Water  
Conservation; the Natural  
Bridge Soil and Water  
Conservation District; and  
the Rockbridge Board of  
Supervisors

# Soil Survey of Rockbridge County, Virginia







# How To Use This Soil Survey

## General Soil Map

The general soil map, which is a color map, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

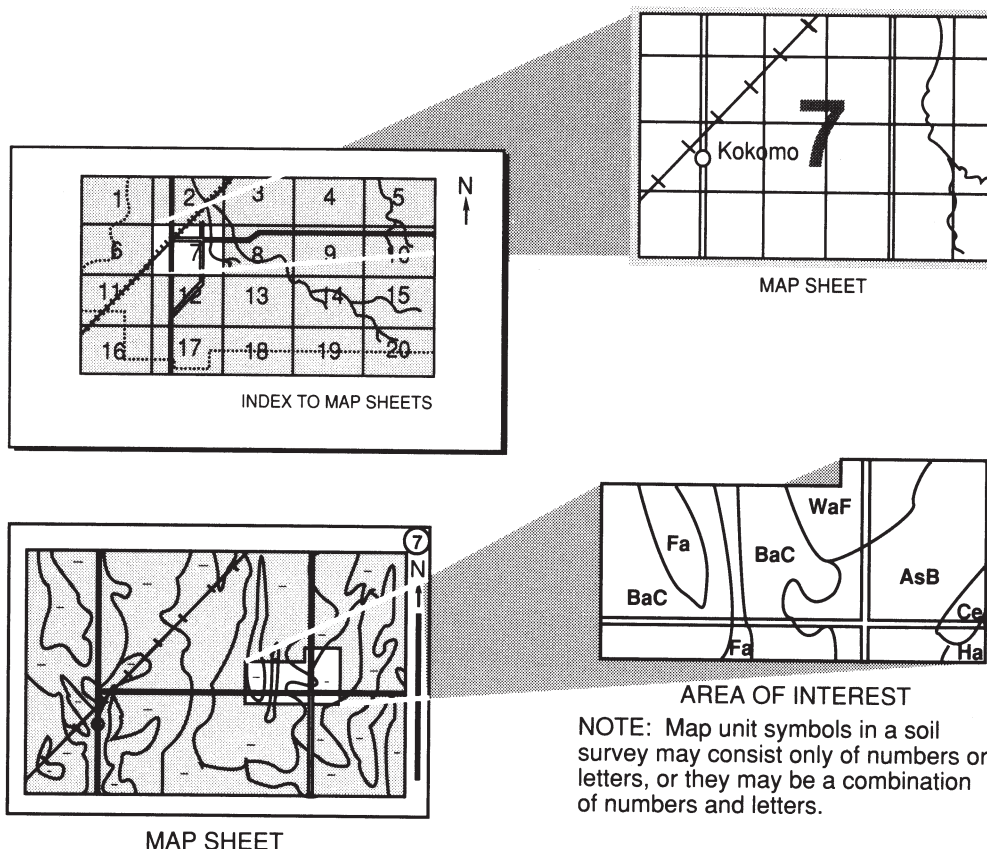
## Detailed Soil Maps

The detailed soil maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



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## National Cooperative Soil Survey

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey. This survey was made cooperatively by the Natural Resources Conservation Service and the United States Department of Agriculture, Forest Service; Virginia Polytechnic Institute and State University; and the Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation. The survey is part of the technical assistance furnished to the Natural Bridge Soil and Water Conservation District. The Rockbridge County Board of Supervisors provided financial assistance for the survey.

Major fieldwork for this soil survey was completed in 2010. Soil names and descriptions were approved in 2010. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2010. The most current official data are available at <http://websoilsurvey.nrcs.usda.gov/>.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

## Literature Citation

The correct citation for this survey is as follows:

United States Department of Agriculture, Natural Resources Conservation Service. 2014. Soil survey of Rockbridge County, Virginia. (Accessible online at: [http://soils.usda.gov/survey/printed\\_surveys](http://soils.usda.gov/survey/printed_surveys))

**Cover caption: A view looking north at Big House and Little House Mountains. The cleared areas are dominantly Carbo, Opequon, Groseclose Tumbling, and Vanella soils. The wooded areas are dominantly Dekalb, Lehew, Berks, Oriskany, and Murrill soils.**



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*Issued 2014*



# Foreword

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Soil surveys contain information that affects land use planning in survey areas. They include predictions of soil behavior for selected land uses. The surveys highlight soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

Soil surveys are designed for many different users. Farmers, ranchers, foresters, and agronomists can use the surveys to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the surveys to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the surveys to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described, and information on specific uses is given. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

**John A. Bricker**

State Conservationist

Natural Resources Conservation Service





# Soil Survey of Rockbridge County, Virginia

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By Mary Ellen Cook, Natural Resources Conservation Service

Soils surveyed by Mary Ellen Cook, Robert K. Conner, Aletta A. Davis, Herbert L. Gillispie, Jeff Thomas, and Barrie L. Wolf, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service,  
in cooperation with  
United States Department of Agriculture, Forest Service; Virginia Polytechnic Institute and State University; Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation; and United States Department of the Interior, National Park Service

**ROCKBRIDGE COUNTY** is located in west-central Virginia about 50 miles north of Roanoke, Virginia (fig. 1). The county is dominantly in the Valley and Ridge Physiographic Province; the eastern border is in the Blue Ridge Physiographic Province. Rockbridge County is bordered on the north by Augusta County, on the east by Nelson and Amherst Counties, on the southeast by Bedford County, on the south by Botetourt County, and on the west by Alleghany and Bath Counties. Rockbridge County, including the cities of Lexington and Buena Vista, has a total of 389,894 acres, including both land and U.S. Census water. This soil survey area covers 368,618 acres of land in Rockbridge County, including the cities of Lexington and Buena Vista, and most of the National Forest and National Park Service land.

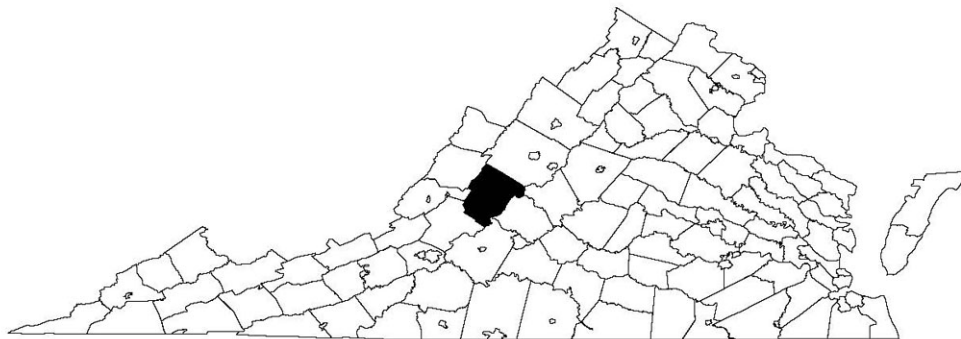


Figure 1.—Location of Rockbridge County in Virginia.

This soil survey updates the soil survey of Rockbridge County, Virginia published in 1931 (USDA-SCS, 1931). It provides a more detailed map product at a scale of 1:24,000 with soil map units drawn on a digital orthophoto base. Because of the scale at which the soils were mapped, the survey is useful for general planning purposes. The primary systems online that allow one to access detailed soil survey information, both spatial and tabular, are the Web Soil Survey (<http://websoilsurvey.nrcs.usda.gov/>).

In 2010, according to the U.S. Census Bureau, the population of Rockbridge County, and the cities of Lexington and Buena Vista was 35,999 (U.S. Dept. of Commerce, Census Bureau, 2010).

Forestry, farming, residential housing development, and some industrial development are the major land uses in the county. Rockbridge County is dominantly in woodland with the remaining acreage dominantly in farmland. Today, most of the farmland is used for livestock grazing and hay production and some land is devoted to row crops and specialty crops.

## **General Nature of the Survey Area**

This section provides general information about farming, relief and drainage, and the climate in the survey area.

### **Farming**

The earliest people in the survey area were American Indians of the Eastern Woodlands. They hunted, fished, and practiced some level of mixed agriculture. With the arrival of European settlers in the early 1700s, the sparsely populated forest and meadow areas were transformed into small subsistence livestock and crop farms. The rise of wheat farming in the late 1700s to its heyday in the 1800s was fueled by large waves of settlers in the mid-1700s, mainly Ulster Scots, and by the invention of the mechanical reaper in 1831 by Cyrus McCormick on his family farm in the Raphine area of the county (fig. 2). This land use pattern generally persisted into the 20th century; some farms were abandoned during this period due to soil erosion and socio-economic change.

In 2007, according to the Census of Agriculture, Rockbridge County had a total of 805 farms, which averaged 172 acres in size (USDA, Census of Agriculture, 2007). Farmland in the county totaled 138,315 acres, or about 38 percent of the total acreage in the survey area. Of this farmland, 30,931 acres were harvested cropland. Pasture land totaled 87,412 acres. Compared with historical data, the 2007 data indicate a trend toward decreasing acreage devoted to farming. Presently, livestock grazing and hay production are the dominant activities on agricultural land in Rockbridge County with some land devoted to row crops and specialty crops.

The 2009 annual crop and livestock data published in the Virginia Agricultural Statistics Bulletin reported that hay was the principal crop harvested on 25,900 acres of land (USDA-NASS, Virginia Ag. Stats. Bull., 2009). Hay yields averaged 2.4 tons per acre, with a total production of 61,600 tons. Heads of cattle and calves totaled 29,900. Heads of sheep and lambs totaled 1,500.

Using the most recent data available for corn (2008), the Agricultural Statistics Bulletin reported that grain yields averaged 99 bushels per acre, with a total production of 79,200 bushels (USDA-NASS, Virginia Ag. Stats. Bull., 2009). Yields of corn for silage averaged 11 tons per acre, with a total production of 25,300 tons.

About 37 percent of the farms in the county are operated on a full-time basis and include 9 dairy farms (down from 24 dairies in 2002). Beef cow-calf and cattle backgrounding are the leading enterprises in terms of gross agricultural revenue. Dairy and contract poultry production also is important, especially for full-time farming operations.



**Figure 2.—Walnut Grove Farm, home of Cyrus McCormick, now known as the Virginia Tech Shenandoah Valley Agricultural Research and Extension Center, is located on Frederick-Caneyville complex, 3 to 15 percent slopes, very rocky.**

## Relief and Drainage

The survey area is part of a broad, rolling valley, known as the Great Valley of Virginia, which is flanked on the east by the Blue Ridge Mountains and on the west by the Allegheny Mountains. The highest elevations in the valley, approximately 2,000 feet, occur along the county's northern boundary. The lowest elevations occur in the southern portion of the survey area; the lowest elevation (720 feet) occurs where the James River flows out of the county.

To the east of the valley, major ridges of the Blue Ridge Mountains form prominent features on the landscape. The highest elevations (slightly over 4,000 feet) occur on the summits of Rocky Mountain and Elk Pond Mountain in the northeast corner of the survey area.

To the west of the valley, the Allegheny Mountains form a series of alternating ridges and narrow valleys. The mountaintops are also narrow and well defined. They are generally capped with resistant sandstone and quartzite, which form scenic cliffs and overlooks. Big House Mountain, with an elevation of 3,645 feet, is the highest elevation in the Allegheny Mountain section of the survey area.

The entire survey area lies within the James River watershed. The James River directly drains less than 10 percent of the survey area. The remaining 90 percent is drained by the Maury River and its tributaries.

## Climate

**Table 1** provides data on temperature and precipitation for the survey area as recorded at Glasgow, Virginia in the period 1971 to 2001. Given the location of this weather station at the base of a narrow river gorge, its readings, when compared



to those measured in the broader valley, typically show precipitation rates about 10 inches greater than the county average. **Table 2** provides data on probable dates of last freeze in spring and first freeze in fall. **Table 3** provides data on the length of the growing season.

In winter, during the period of record, the average temperature was 34 degrees F and the average daily minimum temperature was 23 degrees F. The lowest temperature on record, which occurred on December 21, 1985, was -10 degrees F. In summer, the average temperature was 73 degrees and the average daily maximum temperature was 86 degrees F. The highest recorded temperature, which occurred on August 9, 2000, was 102 degrees F.

Growing degree days are shown in **Table 3**. They are equivalent to “heat units.” During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

Total annual precipitation during the period of record was about 50 inches. Of this, about 26 inches, or 51 percent, fell in April through September. The growing season for most crops falls within this period. The heaviest 1-day rainfall was 8.43 inches, recorded on June 25, 1995. Thunderstorms occur on about 36 days each year, and most occur in summer. Periods of heavy rainfall, which can occur throughout the year, and severe thunderstorms in summer can cause flash floods, especially in narrow valleys.

During the period of record, the average seasonal snowfall was about 19 inches. The greatest snow depth at any one time was 27 inches, recorded on January 8, 1996. On average, 14 days of the year had at least 1 inch of snow on the ground (fig. 3).



**Figure 3.—At the Virginia Tech Shenandoah Valley Agricultural Research and Extension Center, cattle will dig under the snow during early winter to graze fescue which has been stockpiled during the growing season.**

The heaviest 1-day snowfall was 16 inches, recorded in January 1971. In general, the temperature and precipitation in the county are relatively uniform at similar elevations, with some minor differences due to slope aspect. However, average temperatures typically decrease by about 4 degrees F (from the annual average) per increase of 1,000 feet in elevation and average amounts of precipitation typically increase by about 2 inches per increase of 1,000 feet in elevation.

**Tables 2 and 3** show data that were recorded at Buchanan, Virginia in the period 1971 to 2000. Data from this weather are representative of the climate in this region of Virginia. In **Table 2**, the length of the growing season, which is defined as the period between the average date of the last freezing temperature (32 degrees F) in spring (April 30 at 50 percent probability) and the average date of the first freezing temperature in fall (October 16 at 50 percent probability), is about 171 days (see **Table 3**). However, freezing temperatures have occurred as late as May 13 in and as early as October 1 (10 percent probability) in fall.

Thunderstorm days, relative humidity, percent sunshine, and wind information were estimated from First Order Station at Roanoke, Virginia. During the period of record, the average relative humidity in midafternoon was about 53 percent. Humidity was higher at night, and the average at dawn was about 78 percent. The sun shone 61 percent of the time in summer and 47 percent in winter. The prevailing winds were from the southwest; during the colder months, winds frequently came from the northwest. Average windspeed was highest, 8.5 miles per hour, in March.

## How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of

soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

# Detailed Soil Map Units

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The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the

detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Frederick silt loam, 8 to 15 percent slopes, is a phase of the Frederick series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Berks-Weikert complex, 3 to 15 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Dekalb, Lehigh and Berks soils, 15 to 35 percent slopes, very stony, is an undifferentiated group in this survey area.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Slickens is an example.

**Table 4** lists the map units in this survey area. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The "Glossary" defines many of the terms used in describing the soils.

## 1A—Alonzville loam, 0 to 3 percent slopes, rarely flooded

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Low level stream terraces

*Position on the landform:* Treads and risers

### Map Unit Composition

Alonzville and similar soils: Typically 80 percent, ranging from about 70 to 90 percent

### Typical Profile

*Surface layer:*

0 to 5 inches—dark grayish brown loam

*Subsoil:*

5 to 15 inches—brown loam

15 to 44 inches—dark yellowish brown clay loam

44 to 55 inches—dark yellowish brown clay loam

55 to 65 inches—dark yellowish brown gravelly loam

### Minor Components

*Dissimilar components:*

- Coursey soils, which are moderately well drained; on stream terraces
- Soils that have a cobbly surface layer; on stream terraces
- Soils that do not flood; on stream terraces
- Soils that flood more frequently than the Alonzville soil; on flood plains

*Similar components:*

- Soils that have a gravelly surface layer; on stream terraces
- Soils that are on slopes of more than 3 percent, on stream terraces

### Soil Properties and Qualities

*Available water capacity:* Moderate (about 7.4 inches)



*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)  
*Depth class:* Very deep (more than 60 inches)  
*Depth to root-restrictive feature:* More than 60 inches  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* Rare  
*Ponding hazard:* None  
*Shrink-swell potential:* Low  
*Surface fragments (stone and/or boulder size):* None  
*Rockiness:* None  
*Parent material:* Alluvium derived from sandstone, siltstone, and shale; limestone and dolomitic limestone to a lesser extent

#### **Interpretive Groups**

*Prime farmland:* All areas are prime farmland  
*Land capability class:* 1  
*Virginia soil management group:* L  
*Hydric soil:* No

## **2B—Alonzville loam, 3 to 8 percent slopes**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)  
*Landform:* Intermediate level stream terraces  
*Position on the landform:* Treads and risers

#### **Map Unit Composition**

Alonzville and similar soils: Typically 80 percent, ranging from about 70 to 90 percent

#### **Typical Profile**

##### *Surface layer:*

0 to 5 inches—dark grayish brown loam

##### *Subsoil:*

5 to 15 inches—brown loam

15 to 44 inches—dark yellowish brown clay loam

44 to 55 inches—dark yellowish brown clay loam

55 to 65 inches—dark yellowish brown gravelly loam

#### **Minor Components**

##### *Dissimilar components:*

- Coursey soils, which are moderately well drained; on stream terraces
- Soils that have a cobbly surface layer; on stream terraces
- Soils that are susceptible to flooding; on flood plains and low stream terraces

##### *Similar components:*

- Soils that have a gravelly surface layer; on stream terraces
- Soils that are on slopes of less than 3 percent or more than 8 percent, on stream terraces

#### **Soil Properties and Qualities**

*Available water capacity:* Moderate (about 7.4 inches)  
*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)  
*Depth class:* Very deep (more than 60 inches)  
*Depth to root-restrictive feature:* More than 60 inches



*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

Surface fragments (stone and/or boulder size): None

*Rockiness:* None

*Parent material:* Alluvium derived from sandstone, siltstone, and shale; limestone and dolomitic limestone to a lesser extent

#### **Interpretive Groups**

*Prime farmland:* All areas are prime farmland

*Land capability class:* 2e

*Virginia soil management group:* L

*Hydric soil:* No

### **3B—Alonzville-Urban land complex, 3 to 8 percent slopes**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Urban or built-up areas on intermediate level stream terraces within the vicinity of the city of Buena Vista

*Position on the landform:* Treads and risers

#### **Map Unit Composition**

*Note:* This Alonzville soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Alonzville and similar soils: Typically 50 percent, ranging from about 45 to 55 percent

Urban land: Typically 45 percent, ranging from about 40 to 50 percent

#### **Typical Profile**

##### **Alonzville**

*Surface layer:*

0 to 5 inches—dark grayish brown loam

*Subsoil:*

5 to 15 inches—brown loam

15 to 44 inches—dark yellowish brown clay loam

44 to 55 inches—dark yellowish brown clay loam

55 to 65 inches—dark yellowish brown gravelly loam

##### **Urban land**

This part of the map unit consists of areas covered by impervious surfaces such as asphalt roadways and parking lots, concrete structures, and buildings. A typical profile is not given because the original soils have been disturbed.

#### **Minor Components**

*Dissimilar components:*

- Coursey soils, which are moderately well drained; on undisturbed stream terraces
- Lostcove soils, which have more rock fragments throughout than the Alonzville soil; in undisturbed colluvial positions and drainageways
- Soils that have a cobbly surface layer; on undisturbed stream terraces

## Soil Survey of Rockbridge County, Virginia

- Soils that are susceptible to flooding; on undisturbed flood plains and low stream terraces
- Soils that have been disturbed by grading, cutting, and filling

### *Similar components:*

- Soils that have a gravelly surface layer; on undisturbed stream terraces
- Soils that are on slopes of less than 3 percent or more than 8 percent, on stream terraces

### **Properties and Qualities of the Alonzo Soil**

*Available water capacity:* Moderate (about 7.4 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

Surface fragments (stone and/or boulder size): None

*Rockiness:* None

*Parent material:* Alluvium derived from sandstone, siltstone, and shale; limestone and dolomitic limestone to a lesser extent

### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* Alonzo—2e; Urban land—8

*Virginia soil management group:* Alonzo—L; Urban land—none assigned

*Hydric soil:* Alonzo—no; Urban land—unranked

## **4C—Berks-Weikert complex, 3 to 15 percent slopes**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills and mountains (fig. 4)

*Position on the landform:* Interfluvies, nose slopes, and mountaintops

### **Map Unit Composition**

*Note:* These Berks and Weikert soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Berks and similar soils: Typically 50 percent, ranging from about 45 to 55 percent

Weikert and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

### **Typical Profile**

#### **Berks**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 3 inches—very dark grayish brown channery silt loam

*Subsurface layer:*

3 to 5 inches—yellowish brown channery silt loam

*Subsoil:*

5 to 9 inches—yellowish brown channery silt loam

9 to 27 inches—yellowish brown very channery silt loam



Figure 4.—An example of Berks-Weikert complex, 3 to 15 percent slopes. Moderately deep to shallow depth to bedrock and droughtiness restrict the rooting depth of trees growing on these soils.

*Substratum:*

27 to 30 inches—yellowish brown extremely channery silt loam

*Bedrock:*

30 inches—fissile acid shale

**Weikert**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 2 inches—dark brown channery silt loam

*Subsurface layer:*

2 to 4 inches—yellowish brown channery silt loam

*Subsoil:*

4 to 9 inches—yellowish brown very channery silt loam

9 to 14 inches—yellowish brown very channery silt loam

*Substratum:*

14 to 17 inches—yellowish brown extremely channery silt loam

*Bedrock:*

17 inches—fissile acid shale

**Minor Components**

*Dissimilar components:*

- Derroc soils, which are susceptible to flooding; on flood plains
- Escatawba soils, which are very deep to bedrock; in old colluvial positions
- Oriskany soils, which are very deep to bedrock; in colluvial positions and drainageways

## Soil Survey of Rockbridge County, Virginia

- Rough soils, which are very shallow to bedrock; on hills and mountains
- Soils that are very deep to bedrock and have fewer rock fragments throughout than the Berks and Weikert soils; in colluvial positions
- Soils that are moderately well drained; on hills and mountains
- Soils that have a very stony surface; on hills and mountains
- Areas of rock outcrop

### *Similar components:*

- Soils that have fewer rock fragments in the subsoil; on hills and mountains
- Soils that have a redder subsoil; on hills and mountains
- Soils that are deep to bedrock; on hills and mountains
- Soils that are on slopes of less than 3 percent or more than 15 percent

### **Soil Properties and Qualities**

#### **Berks**

*Available water capacity:* Low (about 4.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from acid shale and siltstone

#### **Weikert**

*Available water capacity:* Very low (about 1.8 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Shallow (10 to 20 inches)

*Depth to root-restrictive feature:* 10 to 20 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from acid shale and siltstone

### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* Berks—3e; Weiker—4s

*Virginia soil management group:* JJ

*Hydric soil:* No

## **5A—Botetourt loam, 0 to 3 percent slopes, rarely flooded**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Low level stream terraces

*Position on the landform:* Treads and risers



### Map Unit Composition

Botetourt and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

### Typical Profile

*Surface layer:*

0 to 7 inches—brown loam

*Subsoil:*

7 to 14 inches—brownish yellow clay loam; strong brown masses of oxidized iron

14 to 24 inches—yellowish brown clay loam; very pale brown iron depletions; strong brown masses of oxidized iron

24 to 44 inches—brownish yellow clay loam; light gray iron depletions

44 to 53 inches—reddish yellow loam; light gray iron depletions

*Substratum:*

53 to 65 inches—yellowish brown gravelly sandy clay loam; gray and light gray iron depletions

### Minor Components

*Dissimilar components:*

- Ingledove soils, which are well drained; on stream terraces
- Maurertown soils, which are poorly drained; on stream terraces
- Toms soils, which are somewhat poorly drained; on stream terraces
- Soils that have a cobbly surface layer; on stream terraces
- Soils that do not flood; on stream terraces
- Soils that flood more frequently than the Botetourt soil; on flood plains

*Similar components:*

- Soils that have a gravelly surface layer; on stream terraces
- Soils that are on slopes of more than 3 percent, on stream terraces

### Soil Properties and Qualities

*Available water capacity:* Moderate (about 8.5 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Moderately well drained

*Depth to seasonal water saturation:* About 18 to 30 inches

*Water table kind:* Apparent

*Flooding hazard:* Rare

*Ponding hazard:* None

*Shrink-swell potential:* Low

Surface fragments (stone and/or boulder size): None

*Rockiness:* None

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

### Interpretive Groups

*Prime farmland:* All areas are prime farmland

*Land capability class:* 2w

*Virginia soil management group:* G

*Hydric soil:* No

## **6A—Botetourt-Urban land complex, 0 to 3 percent slopes, rarely flooded**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Urban or built-up areas on low level stream terraces within the vicinity of the town of Glasgow

*Position on the landform:* Treads and risers

### **Map Unit Composition**

*Note:* This Botetourt soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Botetourt and similar soils: Typically 50 percent, ranging from about 45 to 55 percent

Urban land: Typically 45 percent, ranging from about 40 to 50 percent

### **Typical Profile**

#### **Botetourt**

*Surface layer:*

0 to 7 inches—brown loam

*Subsoil:*

7 to 14 inches—brownish yellow clay loam; strong brown masses of oxidized iron

14 to 24 inches—yellowish brown clay loam; very pale brown iron depletions; strong brown masses of oxidized iron

24 to 44 inches—brownish yellow clay loam; light gray iron depletions

44 to 53 inches—reddish yellow loam; light gray iron depletions

*Substratum:*

53 to 65 inches—yellowish brown gravelly sandy clay loam; gray and light gray iron depletions

#### **Urban land**

This part of the map unit consists of areas covered by impervious surfaces such as asphalt roadways and parking lots, concrete structures, and buildings. A typical profile is not given because the original soils have been disturbed.

### **Minor Components**

*Dissimilar components:*

- Ingledove soils, which are well drained; on undisturbed stream terraces
- Maurertown soils, which are poorly drained; on undisturbed stream terraces
- Toms soils, which are somewhat poorly drained; on undisturbed stream terraces
- Soils that have a cobbly surface layer; on undisturbed stream terraces
- Soils that do not flood; on undisturbed stream terraces
- Soils that flood more frequently than the Botetourt soil; on undisturbed flood plains
- Soils that have been disturbed by grading, cutting, and filling

*Similar components:*

- Soils that have a gravelly surface layer; on undisturbed stream terraces
- Soils that are on slopes of more than 3 percent, on stream terraces

### **Properties and Qualities of the Botetourt Soil**

*Available water capacity:* Moderate (about 8.5 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Moderately well drained

*Depth to seasonal water saturation:* About 18 to 30 inches

*Water table kind:* Apparent

*Flooding hazard:* Rare

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* Botetourt—2w; Urban land—8

*Virginia soil management group:* Botetourt—G; Urban land—none assigned

*Hydric soil:* Botetourt—no; Urban land—unranked

### **7A—Buckton-Weaver complex, 0 to 3 percent slopes, occasionally flooded**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Flood plains (fig. 5)

*Position on the landform:* Treads

*Note:* This map unit is mainly mapped along Hays Creek and its tributaries



**Figure 5.—Buckton-Weaver complex, 0 to 3 percent slopes, occasionally flooded.**



### Map Unit Composition

*Note:* These Buckton and Weaver soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Buckton and similar soils: Typically 55 percent, ranging from about 45 to 65 percent

Weaver and similar soils: Typically 30 percent, ranging from about 20 to 40 percent

### Typical Profile

#### Buckton

##### *Surface layer:*

0 to 7 inches—brown silt loam

##### *Substratum:*

7 to 18 inches—brown silt loam

18 to 29 inches—brown silt loam

29 to 48 inches—dark brown silt loam

48 to 73 inches—brown fine sand with thin layers of silt loam

#### Weaver

##### *Surface layer:*

0 to 10 inches—brown silt loam

##### *Subsoil:*

10 to 18 inches—brown silt loam

18 to 26 inches—brown silt loam; grayish brown iron depletions; black manganese masses

26 to 30 inches—dark yellowish brown silt loam; grayish brown iron depletions

30 to 49 inches—dark grayish brown silt loam with partially decomposed leaves and twigs

##### *Substratum:*

49 to 60 inches—dark grayish brown gravelly silty clay loam

### Minor Components

##### *Dissimilar components:*

- Botetourt soils, which are moderately well drained; on stream terraces
- Holly soils, which are poorly drained; on flood plains
- Ingledove soils, which are well drained; on stream terraces
- Orrville soils, which are somewhat poorly drained; on flood plains

##### *Similar components:*

- Soils that have a loam surface layer; on flood plains
- Soils with marly layers throughout; on flood plains
- Soils that are on slopes of more than 3 percent, on stream terraces

### Soil Properties and Qualities

#### Buckton

*Available water capacity:* High (about 11.3 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* Occasional

*Ponding hazard:* None

*Shrink-swell potential:* Low

Surface fragments (stone and/or boulder size): None

Rockiness: None

*Parent material:* Alluvium derived from calcium carbonate-rich deposits mixed with limestone, dolomitic limestone, sandstone, siltstone, and shale

**Weaver**

*Available water capacity:* Very high (about 12.4 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Moderately well drained

*Depth to seasonal water saturation:* About 18 to 36 inches

*Water table kind:* Apparent

*Flooding hazard:* Occasional

*Ponding hazard:* None

*Shrink-swell potential:* Low

Surface fragments (stone and/or boulder size): None

*Rockiness:* None

*Parent material:* Alluvium derived from calcium carbonate-rich deposits mixed with limestone, dolomitic limestone, sandstone, siltstone, and shale

**Interpretive Groups**

*Prime farmland:* All areas are prime farmland

*Land capability class:* Buckton—1; Weaver—2w

*Virginia soil management group:* Buckton—A; Weaver—G

*Hydric soil:* No

## **8F—Caneyville-Frederick-Rock outcrop complex, 35 to 55 percent slopes**

**Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills

*Position on the landform:* Side slopes

**Map Unit Composition**

*Note:* These Caneyville and Frederick soils and Rock outcrop occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Caneyville and similar soils: Typically 60 percent, ranging from about 55 to 65 percent

Frederick and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

Rock outcrop: Typically 15 percent, ranging from about 10 to 40 percent

**Typical Profile**

**Caneyville**

*Surface layer:*

0 to 3 inches—brown silt loam

*Subsoil:*

3 to 6 inches—strong brown silt loam

6 to 12 inches—yellowish red silty clay loam

12 to 25 inches—red clay

*Bedrock:*

25 inches—hard limestone

**Frederick**

*Surface layer:*

0 to 9 inches—brown silt loam

*Subsoil:*

9 to 16 inches—yellowish red silty clay loam

16 to 25 inches—red clay

25 to 41 inches—red clay

41 to 74 inches—red clay; strong brown lithochromic mottles

**Rock outcrop**

This part of the map unit consists of hard limestone, cherty limestone or dolomitic limestone that ranges from a few inches to about 5 feet in height.

**Minor Components**

*Dissimilar components:*

- Slabtown soils, which are moderately well drained; in local colluvial positions
- Areas that have fewer rock outcrops than the Caneyville and Frederick soils
- Areas that have sinkholes

*Similar components:*

- Groseclose soils, which have less clay in the lower part of the profile; on hills
- Lodi soils, which have less clay in the lower part of the profile; on hills
- Opequon soils, which are shallow to bedrock; on hills
- Watahala soils, which have more chert gravel in the upper part of the subsoil and have a clayey subsoil at a greater depth; on hills
- Soils that are deep to bedrock; on hills
- Soils that have a loam surface layer; on hills
- Soils that have a gravelly surface layer; on hills
- Soils that are on slopes of less than 35 percent or more than 55 percent

**Soil Properties and Qualities**

**Caneyville**

*Available water capacity:* Low (about 3.5 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* 10 to 40 percent rock outcrop

*Parent material:* Residuum weathered from limestone, cherty limestone, and dolomitic limestone

**Frederick**

*Available water capacity:* Moderate (about 8.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* 10 to 40 percent rock outcrop

*Parent material:* Residuum weathered from limestone, cherty limestone, and dolomitic limestone

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* Caneyville and Frederick—7s; Rock outcrop—8

*Virginia soil management group:* Caneyville—Y; Frederick—M; Urban land—none assigned

*Hydric soil:* No

### **9C—Carbo-Opequon complex, 3 to 15 percent slopes, very rocky**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills and mountains (fig. 6)

*Position on the landform:* Interfluves and nose slopes

#### **Map Unit Composition**

*Note:* These Carbo and Opequon soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Carbo and similar soils: Typically 55 percent, ranging from about 45 to 60 percent

Opequon and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

#### **Typical Profile**

##### **Carbo**

*Surface layer:*

0 to 3 inches—dark brown silty clay loam

*Subsoil:*

3 to 9 inches—variegated dark yellowish brown and yellowish brown clay

9 to 25 inches—dark yellowish brown clay

*Bedrock:*

25 inches—hard limestone

##### **Opequon**

*Surface layer:*

0 to 2 inches—dark brown silty clay loam

*Subsoil:*

2 to 10 inches—variegated dark yellowish brown and yellowish brown clay

10 to 14 inches—dark yellowish brown clay

*Bedrock:*

14 inches—hard limestone

*Dissimilar components:*

- Groseclose soils, which are very deep to bedrock; on hills
- Murrill soils, which are very deep to bedrock; in colluvial positions and drainageways
- Oriskany soils, which are very deep to bedrock; in colluvial positions and drainageways
- Slabtown soils, which are moderately well drained; in local colluvial positions
- Tumbling soils, which are very deep to bedrock; in old colluvial positions
- Vanella soils, which are very deep to bedrock; in old colluvial positions





**Figure 6.—An example of Carbo-Opequon complex, 3 to 15 percent slopes, very rocky. In this unit limestone outcrops typically cover 2 to 10 percent of the surface.**

- Soils that have channers, cobbles, and stones on the surface; on hills and mountains
- Areas of more extensive rock outcrop
- Areas that have sinkholes

*Similar components:*

- Needmore soils, which are moderately deep to bedrock; on hills and mountains
- Soils that are deep to bedrock; on hills and mountains
- Soils that are on slopes of less than 3 percent or more than 15 percent

### Soil Properties and Qualities

#### **Carbo**

*Available water capacity:* Very low (about 2.9 inches)

*Slowest saturated hydraulic conductivity:* Moderately low (about 0.06 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* High

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* 2 to 10 percent rock outcrop of limestone, calcareous shale or siltstone

*Parent material:* Residuum weathered from limestone; in some places calcareous shale and siltstone

#### **Opequon**

*Available water capacity:* Very low (about 1.6 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Shallow (10 to 20 inches)

*Depth to root-restrictive feature:* 12 to 20 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* High

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* 2 to 10 percent rock outcrop of limestone, calcareous shale or siltstone

*Parent material:* Residuum weathered from limestone; in some places calcareous shale and siltstone

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* 6s

*Virginia soil management group:* Carbo—Y; Opequon—JJ

*Hydric soil:* No

## **9E—Carbo-Opequon complex, 15 to 35 percent slopes, very rocky**

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills and mountains

*Position on the landform:* Interfluves, nose slopes, and side slopes

### Map Unit Composition

*Note:* These Carbo and Opequon soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Carbo and similar soils: Typically 50 percent, ranging from about 45 to 55 percent

Opequon and similar soils: Typically 35 percent, ranging from about 30 to 40 percent



### Typical Profile

#### Carbo

*Surface layer:*

0 to 3 inches—dark brown silty clay loam

*Subsoil:*

3 to 9 inches—variegated dark yellowish brown and yellowish brown clay

9 to 25 inches—dark yellowish brown clay

*Bedrock:*

25 inches—hard limestone

#### Opequon

*Surface layer:*

0 to 2 inches—dark brown silty clay loam

*Subsoil:*

2 to 10 inches—variegated dark yellowish brown and yellowish brown clay

10 to 14 inches—dark yellowish brown clay

*Bedrock:*

14 inches—hard limestone

### Minor Components

*Dissimilar components:*

- Groseclose soils, which are very deep to bedrock; on hills
- Murrill soils, which are very deep to bedrock; in colluvial positions and drainageways
- Oriskany soils, which are very deep to bedrock; in colluvial positions and drainageways
- Slabtown soils, which are moderately well drained; in local colluvial positions
- Tumbling soils, which are very deep to bedrock; in old colluvial positions
- Vanella soils, which are very deep to bedrock; in old colluvial positions
- Soils that have channers, cobbles, and stones on the surface; on hills and mountains
- Areas of more extensive rock outcrop
- Areas that have sinkholes

*Similar components:*

- Needmore soils, which are moderately deep to bedrock; on hills and mountains
- Soils that are deep to bedrock; on hills and mountains
- Soils that are on slopes of less than 15 percent or more than 35 percent

### Soil Properties and Qualities

#### Carbo

*Available water capacity:* Very low (about 2.9 inches)

*Slowest saturated hydraulic conductivity:* Moderately low (about 0.06 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* High

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* 2 to 10 percent rock outcrop of limestone, calcareous shale or siltstone

*Parent material:* Residuum weathered from limestone; in some places calcareous shale and siltstone

#### Opequon

*Available water capacity:* Very low (about 1.6 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)  
*Depth class:* Shallow (10 to 20 inches)  
*Depth to root-restrictive feature:* 12 to 20 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* High  
*Surface fragments (stone and/or boulder size):* None  
*Rockiness:* 2 to 10 percent rock outcrop of limestone, calcareous shale or siltstone  
*Parent material:* Residuum weathered from limestone; in some places calcareous shale and siltstone

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland  
*Land capability class:* 6s  
*Virginia soil management group:* Carbo—Y; Opequon—JJ  
*Hydric soil:* No

### **10F—Carbo-Opequon-Rock outcrop complex, 35 to 70 percent slopes**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)  
*Landform:* Hills and mountains  
*Position on the landform:* Side slopes

#### **Map Unit Composition**

*Note:* These Carbo and Opequon soils and Rock outcrop occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Carbo and similar soils: Typically 55 percent, ranging from about 50 to 60 percent  
Opequon and similar soils: Typically 25 percent, ranging from about 20 to 30 percent  
Rock outcrop: Typically 15 percent, ranging from about 5 to 45 percent

#### **Typical Profile**

##### **Carbo**

###### *Surface layer:*

0 to 3 inches—dark brown silty clay loam

###### *Subsoil:*

3 to 9 inches—variegated dark yellowish brown and yellowish brown clay

9 to 25 inches—dark yellowish brown clay

###### *Bedrock:*

25 inches—hard limestone

##### **Opequon**

###### *Surface layer:*

0 to 2 inches—dark brown silty clay loam

###### *Subsoil:*

2 to 10 inches—variegated dark yellowish brown and yellowish brown clay

10 to 14 inches—dark yellowish brown clay

###### *Bedrock:*

14 inches—hard limestone

### **Rock outcrop**

This part of the map unit consists of hard limestone, in some places calcareous shale and siltstone that ranges from a few inches to about 5 feet in height.

### **Minor Components**

#### *Dissimilar components:*

- Groseclose soils, which are very deep to bedrock; on hills
- Murrill soils, which are very deep to bedrock; in colluvial positions and drainageways
- Oriskany soils, which are very deep to bedrock; in colluvial positions and drainageways
- Slabtown soils, which are moderately well drained; in local colluvial positions
- Tumbling soils, which are very deep to bedrock; in old colluvial positions
- Vanella soils, which are very deep to bedrock; in old colluvial positions
- Soils that have channers, cobbles, and stones on the surface; on hills and mountains
- Areas that have sinkholes

#### *Similar components:*

- Needmore soils, which are moderately deep to bedrock; on hills and mountains
- Soils that are deep to bedrock; on hills and mountains
- Soils that are on slopes of less than 35 percent or more than 70 percent

### **Soil Properties and Qualities**

#### **Carbo**

*Available water capacity:* Very low (about 2.9 inches)

*Slowest saturated hydraulic conductivity:* Moderately low (about 0.06 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* High

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* 5 to 45 percent rock outcrop

*Parent material:* Residuum weathered from limestone; in some places calcareous shale and siltstone

#### **Opequon**

*Available water capacity:* Very low (about 1.6 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Shallow (10 to 20 inches)

*Depth to root-restrictive feature:* 12 to 20 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* High

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* 5 to 45 percent rock outcrop

*Parent material:* Residuum weathered from limestone; in some places calcareous shale and siltstone

### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* Carbo and Opequon—7s; Rock outcrop—8

*Virginia soil management group:* Carbo Y; Opequon—JJ; Rock outcrop—none assigned

*Hydric soil:* No

## 11B—Cottonbend loam, 3 to 8 percent slopes

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Intermediate to high level stream terraces (fig. 7)

*Position on the landform:* Treads and risers

### Map Unit Composition

Cottonbend and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

### Typical Profile

#### *Surface layer:*

0 to 5 inches—dark yellowish brown loam

5 to 11 inches—dark yellowish brown loam

#### *Subsoil:*

11 to 20 inches—strong brown gravelly loam

20 to 27 inches—strong brown gravelly loam

27 to 43 inches—strong brown loam

43 to 54 inches—strong brown clay loam; black manganese coatings

54 to 68 inches—strong brown very cobbly clay loam



Figure 7.—An example of Cottonbend loam, 3 to 8 percent slopes used for the production of hay on a high-level river terrace.

### Minor Components

*Dissimilar components:*

- Nicelytown soils, which are moderately well drained; on old stream terraces
- Purdy soils, which are poorly drained; on old stream terraces
- Tygart soils, which are somewhat poorly drained; on old stream terraces
- Soils that are moderately deep to shale bedrock; on old stream terraces
- Soils that have a cobbly surface layer; on old stream terraces
- Areas that have sinkholes

*Similar components:*

- Frederick soils, which formed from limestone residual materials; on hills
- Groseclose soils, which formed from limestone and shale residual materials; on hills
- Shottower soils, which have more clay in the subsoil than the Cottonbend soil; on old stream terraces
- Soils that have surface layers of silt loam or fine sandy loam; on old stream terraces
- Soils that have a gravelly surface layer; on old stream terraces
- Soils that have a thin capping of alluvial material over residual clayey material; on old stream terraces
- Soils that are on slopes of less than 3 percent or more than 8 percent

### Soil Properties and Qualities

*Available water capacity:* Moderate (about 8.3 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

Surface fragments (stone and/or boulder size): None

*Rockiness:* None

*Parent material:* Old alluvium derived from sandstone, siltstone, shale, limestone, and dolomitic limestone

### Interpretive Groups

*Prime farmland:* All areas are prime farmland

*Land capability class:* 2e

*Virginia soil management group:* L

*Hydric soil:* No

## 11C—Cottonbend loam, 8 to 15 percent slopes

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Intermediate to high level stream terraces

*Position on the landform:* Treads and risers

### Map Unit Composition

Cottonbend and similar soils: Typically 85 percent, ranging from about 80 to 90 percent



### Typical Profile

*Surface layer:*

- 0 to 5 inches—dark yellowish brown loam
- 5 to 11 inches—dark yellowish brown loam

*Subsoil:*

- 11 to 20 inches—strong brown gravelly loam
- 20 to 27 inches—strong brown gravelly loam
- 27 to 43 inches—strong brown loam
- 43 to 54 inches—strong brown clay loam; black manganese coatings
- 54 to 68 inches—strong brown very cobbly clay loam

### Minor Components

*Dissimilar components:*

- Nicelytown soils, which are moderately well drained; on old stream terraces
- Tygart soils, which are somewhat poorly drained; on old stream terraces
- Soils that are moderately deep to shale bedrock; on old stream terraces
- Soils that have a cobbly surface layer; on old stream terraces
- Areas that have sinkholes

*Similar components:*

- Frederick soils, which formed from limestone residual materials; on hills
- Groseclose soils, which formed from limestone and shale residual materials; on hills
- Shottower soils, which have more clay in the subsoil than the Cottonbend soil; on old stream terraces
- Soils that have surface layers of silt loam or fine sandy loam; on old stream terraces
- Soils that have a gravelly surface layer; on old stream terraces
- Soils that have a thin capping of alluvial material over residual clayey material; on old stream terraces
- Soils that are on slopes of less than 8 percent or more than 15 percent

### Soil Properties and Qualities

*Available water capacity:* Moderate (about 8.3 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

Surface fragments (stone and/or boulder size): None

*Rockiness:* None

*Parent material:* Old alluvium derived from sandstone, siltstone, shale, limestone, and dolomitic limestone

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* 3e

*Virginia soil management group:* L

*Hydric soil:* No



## 12A—Coursey loam, 0 to 3 percent slopes, rarely flooded

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Low level stream terraces

*Position on the landform:* Treads and risers

### Map Unit Composition

Coursey and similar soils: Typically 80 percent, ranging from about 70 to 90 percent

### Typical Profile

#### *Surface layer:*

0 to 12 inches—brown loam

#### *Subsoil:*

12 to 17 inches—yellowish brown loam

17 to 28 inches—yellowish red loam

28 to 34 inches—yellowish brown clay loam; grayish brown iron depletions; red, brownish yellow and dark yellowish brown masses of oxidized iron

34 to 58 inches—grayish brown clay loam; dark gray iron depletions; red masses of oxidized iron

#### *Substratum:*

58 to 63 inches—strong brown sandy clay loam; dark gray iron depletions; reddish yellow masses of oxidized iron

### Minor Components

#### *Dissimilar components:*

- Alonzo soils, which are well drained; on stream terraces
- Maurertown soils, which are poorly drained; on stream terraces
- Toms soils, which are somewhat poorly drained; on stream terraces
- Soils that have a cobbly surface layer; on stream terraces
- Soils that do not flood; on stream terraces
- Soils that flood more frequently than the Coursey soil; on flood plains

#### *Similar components:*

- Soils that have a gravelly surface layer; on stream terraces
- Soils that are on slopes of more than 3 percent

### Soil Properties and Qualities

*Available water capacity:* High (about 9.2 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Moderately well drained

*Depth to seasonal water saturation:* About 18 to 30 inches

*Water table kind:* Apparent

*Flooding hazard:* Rare

*Ponding hazard:* None

*Shrink-swell potential:* Low

Surface fragments (stone and/or boulder size): None

Rockiness: None

*Parent material:* Alluvium derived from sandstone, siltstone, and shale; limestone and dolomitic limestone to a lesser extent

### **Interpretive Groups**

*Prime farmland:* All areas are prime farmland

*Land capability class:* 2w

*Virginia soil management group:* G

*Hydric soil:* No

## **13B—Coursey loam, 3 to 8 percent slopes**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Intermediate level stream terraces

*Position on the landform:* Treads and risers

### **Map Unit Composition**

Coursey and similar soils: Typically 80 percent, ranging from about 70 to 90 percent

### **Typical Profile**

#### *Surface layer:*

0 to 12 inches—brown loam

#### *Subsoil:*

12 to 17 inches—yellowish brown loam

17 to 28 inches—yellowish red loam

28 to 34 inches—yellowish brown clay loam; grayish brown iron depletions; red, brownish yellow and dark yellowish brown masses of oxidized iron

34 to 58 inches—grayish brown clay loam; dark gray iron depletions; red masses of oxidized iron

#### *Substratum:*

58 to 63 inches—strong brown sandy clay loam; dark gray iron depletions; reddish yellow masses of oxidized iron

### **Minor Components**

#### *Dissimilar components:*

- Alonzo soils, which are well drained; on stream terraces
- Tygart soils, which are somewhat poorly drained; on old stream terraces
- Purdy soils, which are poorly drained; on old stream terraces
- Soils that have a cobbly surface layer; on stream terraces
- Soils that are susceptible to flooding; on flood plains and low stream terraces

#### *Similar components:*

- Nicelytown soils, which have more clay in the subsoil than the Coursey soil; on old stream terraces
- Soils that have a gravelly surface layer; on stream terraces
- Soils that are on slopes of less than 3 percent or more than 8 percent

### **Soil Properties and Qualities**

*Available water capacity:* High (about 9.2 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Moderately well drained

*Depth to seasonal water saturation:* About 18 to 30 inches

*Water table kind:* Apparent

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

Surface fragments (stone and/or boulder size): None

*Rockiness:* None

*Parent material:* Alluvium derived from sandstone, siltstone, and shale; limestone and dolomitic limestone to a lesser extent

#### **Interpretive Groups**

*Prime farmland:* All areas are prime farmland

*Land capability class:* 2e

*Virginia soil management group:* G

*Hydric soil:* No

### **14C—DeKalb, Lehew and Berks soils, 3 to 15 percent slopes, very stony**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Mountains

*Position on the landform:* Mountaintops

#### **Map Unit Composition**

*Note:* This map unit consists of DeKalb, Lehew, and Berks soils, which are not consistently geographically associated and, therefore, do not always occur together in the same map delineation. Individual areas of this unit are made up of any combination of these soils. These soils were mapped together because there are no major differences in their use and management.

DeKalb and similar soils: Typically 50 percent, ranging from about 0 to 90 percent

Lehew and similar soils: Typically 20 percent, ranging from about 0 to 90 percent

Berks and similar soils: Typically 15 percent, ranging from about 0 to 85 percent

#### **Typical Profile**

##### **DeKalb**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 2 inches—very dark gray channery fine sandy loam

*Subsurface layer:*

2 to 4 inches—brown channery fine sandy loam

*Subsoil:*

4 to 12 inches—yellowish brown channery fine sandy loam

12 to 22 inches—yellowish brown very channery sandy loam

*Substratum:*

22 to 32 inches—brownish yellow extremely flaggy loamy sand

*Bedrock:*

32 inches—hard fractured light gray sandstone

##### **Lehew**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

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### *Surface layer:*

2 to 4 inches—brown very channery fine sandy loam

### *Subsurface layer:*

4 to 6 inches—reddish brown very channery fine sandy loam

### *Subsoil:*

6 to 17 inches—dark reddish brown very channery fine sandy loam

17 to 24 inches—reddish brown very channery fine sandy loam

### *Substratum:*

24 to 37 inches—reddish brown extremely flaggy sandy loam

### *Bedrock:*

37 inches—hard dark reddish brown sandstone

## **Berks**

### *Organic layer:*

0 to 1 inch—moderately decomposed plant material

### *Surface layer:*

1 to 3 inches—very dark grayish brown channery silt loam

### *Subsurface layer:*

3 to 5 inches—yellowish brown channery silt loam

### *Subsoil:*

5 to 9 inches—yellowish brown channery silt loam

9 to 27 inches—yellowish brown very channery silt loam

### *Substratum:*

27 to 30 inches—yellowish brown extremely channery silt loam

### *Bedrock:*

30 inches— fissile acid shale

## **Minor Components**

### *Dissimilar components:*

- Laidig soils, which are very deep to bedrock; in colluvial positions and drainageways
- Oriskany soils, which are very deep to bedrock; in colluvial positions and drainageways
- Rough soils, which are very shallow to bedrock; on mountains
- Soils that have a rubbly surface; on mountains
- Areas of rock outcrop

### *Similar components:*

- Weikert soils, which are shallow to bedrock; on mountains
- Soils that have fewer rock fragments in the subsoil than the Dekalb, Lehew, and Berks soils; on mountains
- Soils that are dark reddish brown and have more silt in the subsoil; on mountains
- Soils that are deep to bedrock; on mountains
- Soils that have a nonstony or extremely stony surface; on mountains
- Soils that are on slopes of less than 3 percent or more than 15 percent

## **Soil Properties and Qualities**

### **Dekalb**

*Available water capacity:* Very low (about 2.9 inches)

*Slowest saturated hydraulic conductivity:* High (about 5.95 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from light yellowish brown to gray acid sandstone

#### **Lehew**

*Available water capacity:* Low (about 3.3 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Somewhat excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from dark reddish brown acid sandstone and lesser amounts of shale and siltstone

#### **Berks**

*Available water capacity:* Low (about 4.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from acid shale and siltstone

### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 6s

*Virginia soil management group:* Dekalb—FF; Lehew and Berks—JJ

*Hydric soil:* No

## **14E—Dekalb, Lehew and Berks soils, 15 to 35 percent slopes, very stony**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Mountains

*Position on the landform:* Mountaintops and upper third portion of mountain flanks

### **Map Unit Composition**

*Note:* This map unit consists of Dekalb, Lehew, and Berks soils, which are not consistently geographically associated and, therefore, do not always occur together in the same map delineation. Individual areas of this unit are made up of

any combination of these soils. These soils were mapped together because there are no major differences in their use and management.

Dekalb and similar soils: Typically 50 percent, ranging from about 0 to 90 percent

Lehew and similar soils: Typically 20 percent, ranging from about 0 to 90 percent

Berks and similar soils: Typically 15 percent, ranging from about 0 to 85 percent

### **Typical Profile**

#### **Dekalb**

##### *Organic layer:*

0 to 1 inch—moderately decomposed plant material

##### *Surface layer:*

1 to 2 inches—very dark gray channery fine sandy loam

##### *Subsurface layer:*

2 to 4 inches—brown channery fine sandy loam

##### *Subsoil:*

4 to 12 inches—yellowish brown channery fine sandy loam

12 to 22 inches—yellowish brown very channery sandy loam

##### *Substratum:*

22 to 32 inches—brownish yellow extremely flaggy loamy sand

##### *Bedrock:*

32 inches—hard fractured light gray sandstone

#### **Lehew**

##### *Organic layer:*

0 to 2 inches—moderately decomposed plant material

##### *Surface layer:*

2 to 4 inches—brown very channery fine sandy loam

##### *Subsurface layer:*

4 to 6 inches—reddish brown very channery fine sandy loam

##### *Subsoil:*

6 to 17 inches—dark reddish brown very channery fine sandy loam

17 to 24 inches—reddish brown very channery fine sandy loam

##### *Substratum:*

24 to 37 inches—reddish brown extremely flaggy sandy loam

##### *Bedrock:*

37 inches—hard dark reddish brown sandstone

#### **Berks**

##### *Organic layer:*

0 to 1 inch—moderately decomposed plant material

##### *Surface layer:*

1 to 3 inches—very dark grayish brown channery silt loam

##### *Subsurface layer:*

3 to 5 inches—yellowish brown channery silt loam

##### *Subsoil:*

5 to 9 inches—yellowish brown channery silt loam

9 to 27 inches—yellowish brown very channery silt loam

##### *Substratum:*

27 to 30 inches—yellowish brown extremely channery silt loam

##### *Bedrock:*

30 inches—fissile acid shale

### **Minor Components**

##### *Dissimilar components:*

- Laidig soils, which are very deep to bedrock; in colluvial positions and drainageways



## Soil Survey of Rockbridge County, Virginia

- Oriskany soils, which are very deep to bedrock; in colluvial positions and drainageways
- Rough soils, which are very shallow to bedrock; on mountains
- Soils that have a rubbly surface; on mountains
- Areas of rock outcrop

### *Similar components:*

- Weikert soils, which are shallow to bedrock; on mountains
- Soils that have fewer rock fragments in the subsoil than the Dekalb, Lehew, and Berks soils; on mountains
- Soils that are dark reddish brown and have more silt in the subsoil; on mountains
- Soils that are deep to bedrock; on mountains
- Soils that have a nonstony or extremely stony surface; on mountains
- Soils that are on slopes of less than 15 percent or more than 35 percent

## Soil Properties and Qualities

### **Dekalb**

*Available water capacity:* Very low (about 2.9 inches)

*Slowest saturated hydraulic conductivity:* High (about 5.95 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from light yellowish brown to gray acid sandstone

### **Lehew**

*Available water capacity:* Low (about 3.3 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Somewhat excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from dark reddish brown acid sandstone and lesser amounts of shale and siltstone

### **Berks**

*Available water capacity:* Low (about 4.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from acid shale and siltstone

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7s

*Virginia soil management group:* Dekalb—FF; Lehew and Berks—7s

*Hydric soil:* No

### **14F—Dekalb, Lehew and Berks soils, 35 to 70 percent slopes, very stony**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Mountains

*Position on the landform:* Upper third portion of mountain flanks

#### **Map Unit Composition**

*Note:* This map unit consists of Dekalb, Lehew, and Berks soils, which are not consistently geographically associated and, therefore, do not always occur together in the same map delineation. Individual areas of this unit are made up of any combination of these soils. These soils were mapped together because there are no major differences in their use and management.

Dekalb and similar soils: Typically 50 percent, ranging from about 0 to 90 percent

Lehew and similar soils: Typically 20 percent, ranging from about 0 to 90 percent

Berks and similar soils: Typically 15 percent, ranging from about 0 to 85 percent

#### **Typical Profile**

##### **Dekalb**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 2 inches—very dark gray channery fine sandy loam

*Subsurface layer:*

2 to 4 inches—brown channery fine sandy loam

*Subsoil:*

4 to 12 inches—yellowish brown channery fine sandy loam

12 to 22 inches—yellowish brown very channery sandy loam

*Substratum:*

22 to 32 inches—brownish yellow extremely flaggy loamy sand

*Bedrock:*

32 inches—hard fractured light gray sandstone

##### **Lehew**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 4 inches—brown very channery fine sandy loam

## Soil Survey of Rockbridge County, Virginia

### *Subsurface layer:*

4 to 6 inches—reddish brown very channery fine sandy loam

### *Subsoil:*

6 to 17 inches—dark reddish brown very channery fine sandy loam

17 to 24 inches—reddish brown very channery fine sandy loam

### *Substratum:*

24 to 37 inches—reddish brown extremely flaggy sandy loam

### *Bedrock:*

37 inches—hard dark reddish brown sandstone

## **Berks**

### *Organic layer:*

0 to 1 inch—moderately decomposed plant material

### *Surface layer:*

1 to 3 inches—very dark grayish brown channery silt loam

### *Subsurface layer:*

3 to 5 inches—yellowish brown channery silt loam

### *Subsoil:*

5 to 9 inches—yellowish brown channery silt loam

9 to 27 inches—yellowish brown very channery silt loam

### *Substratum:*

27 to 30 inches—yellowish brown extremely channery silt loam

### *Bedrock:*

30 inches—fissile acid shale

## **Minor Components**

### *Dissimilar components:*

- Laidig soils, which are very deep to bedrock; in colluvial positions and drainageways
- Oriskany soils, which are very deep to bedrock; in colluvial positions and drainageways
- Rough soils, which are very shallow to bedrock; on mountains
- Soils that have a rubbly surface; on mountains
- Areas of rock outcrop

### *Similar components:*

- Weikert soils, which are shallow to bedrock; on mountains
- Soils that have fewer rock fragments in the subsoil than the Dekalb, Lehew, and Berks soils; on mountains
- Soils that are dark reddish brown and have more silt in the subsoil; on mountains
- Soils that are deep to bedrock; on mountains
- Soils that have a nonstony or extremely stony surface; on mountains
- Soils that are on slopes of less than 35 percent or more than 70 percent

## **Soil Properties and Qualities**

### **Dekalb**

*Available water capacity:* Very low (about 2.9 inches)

*Slowest saturated hydraulic conductivity:* High (about 5.95 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from light yellowish brown to gray acid sandstone

**Lehew**

*Available water capacity:* Low (about 3.3 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Somewhat excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from dark reddish brown acid sandstone and lesser amounts of shale and siltstone

**Berks**

*Available water capacity:* Low (about 4.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from acid shale and siltstone

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7e

*Virginia soil management group:* Dekalb—FF; Lehew and Berks—JJ

*Hydric soil:* No

**15E—Dekalb-Lehew-Rock outcrop complex, 15 to 35 percent slopes, extremely stony**

**Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Mountains (fig. 8)

*Position on the landform:* Mountaintops and upper third portion of mountain flanks

**Map Unit Composition**

*Note:* These Dekalb and Lehew soils and Rock outcrop occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Dekalb and similar soils: Typically 50 percent, ranging from about 40 to 60 percent

Lehew and similar soils: Typically 30 percent, ranging from about 20 to 40 percent

Rock outcrop: Typically 15 percent, ranging from about 10 to 20 percent



### Typical Profile

#### Dekalb

##### *Organic layer:*

0 to 1 inch—moderately decomposed plant material

##### *Surface layer:*

1 to 2 inches—very dark gray channery fine sandy loam

##### *Subsurface layer:*

2 to 4 inches—brown channery fine sandy loam

##### *Subsoil:*

4 to 12 inches—yellowish brown channery fine sandy loam

12 to 22 inches—yellowish brown very channery sandy loam

##### *Substratum:*

22 to 32 inches—brownish yellow extremely flaggy loamy sand

##### *Bedrock:*

32 inches—hard fractured light gray sandstone

#### Lehew

##### *Organic layer:*

0 to 2 inches—moderately decomposed plant material

##### *Surface layer:*

2 to 4 inches—brown very channery fine sandy loam

##### *Subsurface layer:*

4 to 6 inches—reddish brown very channery fine sandy loam

##### *Subsoil:*

6 to 17 inches—dark reddish brown very channery fine sandy loam

17 to 24 inches—reddish brown very channery fine sandy loam



Figure 8.—An example of Dekalb-Lehew-Rock outcrop complex, 15 to 35 percent slopes, extremely stony. The Tuscarora is dominantly made up of sandstone and orthoquartzite and are the dominant rock outcrops in this unit.



## Soil Survey of Rockbridge County, Virginia

### *Substratum:*

24 to 37 inches—reddish brown extremely flaggy sandy loam

### *Bedrock:*

37 inches—hard dark reddish brown sandstone

### **Rock outcrop**

This part of the map unit consists of rock outcrop of light yellowish brown to gray sandstone bedrock typically ranging from a few inches to about 100 feet in height as near-vertical cliffs. Rock outcrop of dark reddish brown sandstone typically ranges from a few inches to a few feet in height.

### **Minor Components**

#### *Dissimilar components:*

- Oriskany soils, which are very deep to bedrock; in colluvial positions and drainageways
- Rough soils, which are very shallow to bedrock; on mountains
- Soils that have a very rubbly surface; on mountains
- Areas of more extensive rock outcrop

#### *Similar components:*

- Berks soils, which are moderately deep to bedrock; on mountains
- Weikert soils, which are shallow to bedrock; on mountains
- Soils that are dark reddish brown and have more silt in the subsoil than the Dekalb and Lehigh soils; on mountains
- Soils that are deep to bedrock; on mountains
- Soils that have a very stony or rubbly surface; on mountains
- Soils that are on slopes of less than 15 percent or more than 35 percent

### **Soil Properties and Qualities**

#### **Dekalb**

*Available water capacity:* Very low (about 2.9 inches)

*Slowest saturated hydraulic conductivity:* High (about 5.95 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* 10 to 20 percent rock outcrop

*Parent material:* Residuum weathered from light yellowish brown to gray acid sandstone

#### **Lehigh**

*Available water capacity:* Low (about 3.3 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Somewhat excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* 10 to 20 percent rock outcrop

*Parent material:* Residuum weathered from dark reddish brown acid sandstone and lesser amounts of shale and siltstone

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* Dekalb and Lehigh—7s; Rock outcrop—8

*Virginia soil management group:* Dekalb—FF; Lehigh—JJ; Rock outcrop—none assigned

*Hydric soil:* No

### **15F—Dekalb-Lehigh-Rock outcrop complex, 35 to 80 percent slopes, extremely stony**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Mountains

*Position on the landform:* Upper third portion of mountain flanks

#### **Map Unit Composition**

*Note:* These Dekalb and Lehigh soils and Rock outcrop occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Dekalb and similar soils: Typically 50 percent, ranging from about 40 to 60 percent

Lehigh and similar soils: Typically 20 percent, ranging from about 20 to 40 percent

Rock outcrop: Typically 15 percent, ranging from about 10 to 20 percent

#### **Typical Profile**

##### **Dekalb**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 2 inches—very dark gray channery fine sandy loam

*Subsurface layer:*

2 to 4 inches—brown channery fine sandy loam

*Subsoil:*

4 to 12 inches—yellowish brown channery fine sandy loam

12 to 22 inches—yellowish brown very channery sandy loam

*Substratum:*

22 to 32 inches—brownish yellow extremely flaggy loamy sand

*Bedrock:*

32 inches—hard fractured light gray sandstone

##### **Lehigh**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 4 inches—brown very channery fine sandy loam

*Subsurface layer:*

4 to 6 inches—reddish brown very channery fine sandy loam

*Subsoil:*

6 to 17 inches—dark reddish brown very channery fine sandy loam

17 to 24 inches—reddish brown very channery fine sandy loam

*Substratum:*

24 to 37 inches—reddish brown extremely flaggy sandy loam

**Bedrock:**

37 inches—hard dark reddish brown sandstone

**Rock outcrop**

This part of the map unit consists of rock outcrop of light yellowish brown to gray sandstone bedrock typically ranging from a few inches to about 100 feet in height as near-vertical cliffs. Rock outcrop of dark reddish brown sandstone typically ranges from a few inches to a few feet in height.

**Minor Components**

*Dissimilar components:*

- Oriskany soils, which are very deep to bedrock; in colluvial positions and drainageways
- Rough soils, which are very shallow to bedrock; on mountains
- Soils that have a very rubbly surface; on mountains
- Areas of more extensive rock outcrop

*Similar components:*

- Berks soils, which are moderately deep to bedrock; on mountains
- Weikert soils, which are shallow to bedrock; on mountains
- Soils that are dark reddish brown and have more silt in the subsoil than the Dekalb and Lehigh soils; on mountains
- Soils that are deep to bedrock; on mountains
- Soils that have a very stony or rubbly surface; on mountains
- Soils that are on slopes of less than 35 percent or more than 80 percent

**Soil Properties and Qualities**

**Dekalb**

*Available water capacity:* Very low (about 2.9 inches)

*Slowest saturated hydraulic conductivity:* High (about 5.95 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* 10 to 20 percent rock outcrop

*Parent material:* Residuum weathered from light yellowish brown to gray acid sandstone

**Lehigh**

*Available water capacity:* Low (about 3.3 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Somewhat excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* 10 to 20 percent rock outcrop

*Parent material:* Residuum weathered from dark reddish brown acid sandstone and lesser amounts of shale and siltstone

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* Dekalb and Lehigh—7s; Rock outcrop—8

*Virginia soil management group:* Dekalb—FF; Lehigh—JJ; Rock outcrop—none assigned

*Hydric soil:* No

## 16C—Dekalb-Lily complex, 3 to 15 percent slopes, very stony

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Mountains and hills

*Position on the landform:* Mountaintops and hillslopes

### Map Unit Composition

*Note:* These Dekalb and Lily soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Dekalb and similar soils: Typically 60 percent, ranging from about 55 to 65 percent

Lily and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

### Typical Profile

#### Dekalb

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 2 inches—very dark gray channery fine sandy loam

*Subsurface layer:*

2 to 4 inches—brown channery fine sandy loam

*Subsoil:*

4 to 12 inches—yellowish brown channery fine sandy loam

12 to 22 inches—yellowish brown very channery sandy loam

*Substratum:*

22 to 32 inches—brownish yellow extremely flaggy loamy sand

*Bedrock:*

32 inches—hard fractured light gray sandstone

#### Lily

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 3 inches—black sandy loam

*Subsoil:*

3 to 17 inches—yellowish brown loam

17 to 27 inches—yellowish brown clay loam

27 to 32 inches—strong brown gravelly clay loam

*Bedrock:*

32 inches—hard sandstone

### Minor Components

*Dissimilar components:*

- Laidig soils, which are very deep to bedrock; in colluvial positions and drainageways

## Soil Survey of Rockbridge County, Virginia

- Lodi soils, which are very deep to bedrock; on hills and mountains
- McClung soils, which are very deep to bedrock; on hills and mountains
- Murrill soils, which are very deep to bedrock; in colluvial positions and drainageways
- Oriskany soils, which are very deep to bedrock; in colluvial positions and drainageways
- Areas of rock outcrop

### *Similar components:*

- Lehigh soils, which are moderately deep to bedrock; on mountains
- Soils that are deep to bedrock; on hills and mountains
- Soils that have a nonstony or extremely stony surface; on hills and mountains
- Soils that are dominantly sandy with fewer rock fragments in the subsoil than the Dekalb and Lily soils; on hills and mountains
- Soils that are on slopes of less than 3 percent or more than 15 percent

## **Soil Properties and Qualities**

### **Dekalb**

*Available water capacity:* Very low (about 2.9 inches)

*Slowest saturated hydraulic conductivity:* High (about 5.95 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from light yellowish brown to gray acid sandstone

### **Lily**

*Available water capacity:* Low (about 4.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from sandstone

## **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 6s

*Virginia soil management group:* Dekalb—FF; Lily—U

*Hydric soil:* No

## **16E—DeKalb-Lily complex, 15 to 35 percent slopes, very stony**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Mountains and hills

*Position on the landform:* Mountaintops, mountain flanks, and hillslopes

### **Map Unit Composition**

*Note:* These DeKalb and Lily soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

DeKalb and similar soils: Typically 50 percent, ranging from about 45 to 55 percent

Lily and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

### **Typical Profile**

#### **DeKalb**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 2 inches—very dark gray channery fine sandy loam

*Subsurface layer:*

2 to 4 inches—brown channery fine sandy loam

*Subsoil:*

4 to 12 inches—yellowish brown channery fine sandy loam

12 to 22 inches—yellowish brown very channery sandy loam

*Stratum:*

22 to 32 inches—brownish yellow extremely flaggy loamy sand

*Bedrock:*

32 inches—hard fractured light gray sandstone

#### **Lily**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 3 inches—black sandy loam

*Subsoil:*

3 to 17 inches—yellowish brown loam

17 to 27 inches—yellowish brown clay loam

27 to 32 inches—strong brown gravelly clay loam

*Bedrock:*

32 inches—hard sandstone

### **Minor Components**

*Dissimilar components:*

- Laidig soils, which are very deep to bedrock; in colluvial positions and drainageways
- Lodi soils, which are very deep to bedrock; on hills and mountains McClung soils, which are very deep to bedrock; on hills and mountains
- Murrill soils, which are very deep to bedrock; in colluvial positions and drainageways
- Oriskany soils, which are very deep to bedrock; in colluvial positions and drainageways
- Areas of rock outcrop



*Similar components:*

- Lehigh soils, which are moderately deep to bedrock; on mountains
- Soils that are deep to bedrock; on hills and mountains
- Soils that have a nonstony or extremely stony surface; on hills and mountains
- Soils that are dominantly sandy with fewer rock fragments in the subsoil than the Dekalb and Lily soils; on hills and mountains
- Soils that are on slopes of less than 15 percent or more than 35 percent

**Soil Properties and Qualities**

**Dekalb**

*Available water capacity:* Very low (about 2.9 inches)

*Slowest saturated hydraulic conductivity:* High (about 5.95 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from light yellowish brown to gray acid sandstone

**Lily**

*Available water capacity:* Low (about 4.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from sandstone

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7s

*Virginia soil management group:* Dekalb—FF; Lily—U

*Hydric soil:* No

**17F—Dekalb-Lily complex, 35 to 55 percent slopes, very stony**

**Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Mountains and hills

*Position on the landform:* Mountain flanks and hillslopes

### Map Unit Composition

*Note:* These Dekalb and Lily soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Dekalb and similar soils: Typically 75 percent, ranging from about 70 to 80 percent

Lily and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

### Typical Profile

#### Dekalb

##### *Organic layer:*

0 to 1 inch—moderately decomposed plant material

##### *Surface layer:*

1 to 2 inches—very dark gray channery fine sandy loam

##### *Subsurface layer:*

2 to 4 inches—brown channery fine sandy loam

##### *Subsoil:*

4 to 12 inches—yellowish brown channery fine sandy loam

12 to 22 inches—yellowish brown very channery sandy loam

##### *Substratum:*

22 to 32 inches—brownish yellow extremely flaggy loamy sand

##### *Bedrock:*

32 inches—hard fractured light gray sandstone

#### Lily

##### *Organic layer:*

0 to 1 inch—moderately decomposed plant material

##### *Surface layer:*

1 to 3 inches—black sandy loam

##### *Subsoil:*

3 to 17 inches—yellowish brown loam

17 to 27 inches—yellowish brown clay loam

27 to 32 inches—strong brown gravelly clay loam

##### *Bedrock:*

32 inches—hard sandstone

### Minor Components

#### *Dissimilar components:*

- Laidig soils, which are very deep to bedrock; in colluvial positions and drainageways
- Lodi soils, which are very deep to bedrock; on hills and mountains
- McClung soils, which are very deep to bedrock; on hills and mountains
- Murrill soils, which are very deep to bedrock; in colluvial positions and drainageways
- Oriskany soils, which are very deep to bedrock; in colluvial positions and drainageways
- Areas of rock outcrop

#### *Similar components:*

- Lehew soils, which are moderately deep to bedrock; on mountains
- Soils that are deep to bedrock; on hills and mountains
- Soils that have a nonstony or extremely stony surface; on hills and mountains
- Soils that are dominantly sandy with fewer rock fragments in the subsoil than the Dekalb and Lily soils; on mountains
- Soils that are on slopes of less than 35 percent or more than 55 percent

### Soil Properties and Qualities

#### Dekalb

*Available water capacity:* Very low (about 2.9 inches)

*Slowest saturated hydraulic conductivity:* High (about 5.95 in./hr.)  
*Depth class:* Moderately deep (20 to 40 inches)  
*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Excessively drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* Low  
*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover  
*Rockiness:* None  
*Parent material:* Residuum weathered from light yellowish brown to gray acid sandstone

#### **Lily**

*Available water capacity:* Low (about 4.0 inches)  
*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)  
*Depth class:* Moderately deep (20 to 40 inches)  
*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* Low  
*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover  
*Rockiness:* None  
*Parent material:* Residuum weathered from sandstone

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland  
*Land capability class:* 7e  
*Virginia soil management group:* Dekalb—FF; Lily—U  
*Hydric soil:* No

### **18A—Derroc very cobbly sandy loam, 0 to 3 percent slopes, frequently flooded**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)  
*Landform:* Flood plains along creeks and rivers mainly underlain by acid and nonacid sedimentary rocks, in areas throughout the county  
*Position on the landform:* Treads

#### **Map Unit Composition**

Derroc and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

#### **Typical Profile**

##### *Surface layer:*

- 0 to 3 inches—dark yellowish brown very cobbly sandy loam
- 3 to 9 inches—dark brown cobbly sandy loam

##### *Subsoil:*

- 9 to 27 inches—dark yellowish brown very cobbly sandy loam
- 27 to 33 inches—dark yellowish brown very cobbly loam

## Soil Survey of Rockbridge County, Virginia

### *Substratum:*

33 to 63 inches—dark yellowish brown very cobbly loamy sand

### **Minor Components**

#### *Dissimilar components:*

- Gladehill soils, which are well drained and flood less frequently; on flood plains
- Holly soils, which are poorly drained and flood less frequently; on flood plains
- Irongate soils, which are moderately well drained and flood less frequently; on flood plains
- Lobdell soils, which are moderately well drained and flood less frequently; on flood plains
- Orrville soils, which are somewhat poorly drained and flood less frequently; on flood plains
- Philo soils, which are moderately well drained and flood less frequently; on flood plains
- Pope soils, which are well drained and flood less frequently; on flood plains
- Sensabaugh soils, which are well drained and flood less frequently; on flood plains
- Wolfgap soils, which are well drained and flood less frequently; on flood plains

#### *Similar components:*

- Soils that have a gravelly or cobbly surface layer; on flood plains
- Soils that are on slopes of more than 3 percent

### **Soil Properties and Qualities**

*Available water capacity:* Low (about 5.1 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* Frequent

*Ponding hazard:* None

*Shrink-swell potential:* Low

Surface fragments (stone and/or boulder size): None

*Rockiness:* None

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 4s

*Virginia soil management group:* CC

*Hydric soil:* No

## **19C—Edneytown loam, 8 to 15 percent slopes**

### **Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains

*Position on the landform:* Mountaintops

### Map Unit Composition

Edneytown and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

### Typical Profile

*Organic layer:*

0 to 1 inch—slightly decomposed plant material

*Surface layer:*

1 to 4 inches—very dark grayish brown loam

*Subsurface layer:*

4 to 8 inches—brown loam

*Subsoil:*

8 to 23 inches—yellowish brown sandy clay loam

23 to 36 inches—yellowish brown sandy clay loam

*Substratum:*

36 to 64 inches—strong brown sandy loam

*Bedrock:*

64 inches—soft weathered charnockite

### Minor Components

*Dissimilar components:*

- Peaks soils, which are moderately deep to bedrock; on mountains
- Saunook soils, which have a thick dark surface layer; in colluvial positions and drainageways
- Thunder soils, which have more rock fragments throughout than the Derroc soil; in colluvial positions and drainageways
- Wintergreen soils, which have significantly more clay in the subsoil; in old colluvial positions
- Soils that are moderately well drained; in colluvial positions and drainageways
- Soils that have a very stony surface; on mountains
- Areas of rock outcrop

*Similar components:*

- Soils that have more or less clay in the subsoil; on mountains Soils that are on slopes of less than 8 percent or more than 15 percent

### Soil Properties and Qualities

*Available water capacity:* Moderate (about 7.7 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* 61 to 79 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stones and/or boulders):* None

*Rockiness:* None

*Parent material:* Residuum from granite, granulite, and charnockite

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* 3e

*Virginia soil management group:* L

*Hydric soil:* No

## 19D—Edneytown loam, 15 to 25 percent slopes

### Setting

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains

*Position on the landform:* Mountaintops and mountain flanks

### Map Unit Composition

Edneytown and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

### Typical Profile

*Organic layer:*

0 to 1 inch—slightly decomposed plant material

*Surface layer:*

1 to 4 inches—very dark grayish brown loam

*Subsurface layer:*

4 to 8 inches—brown loam

*Subsoil:*

8 to 23 inches—yellowish brown sandy clay loam

23 to 36 inches—yellowish brown sandy clay loam

*Stratum:*

36 to 64 inches—strong brown sandy loam

*Bedrock:*

64 inches—soft weathered charnockite

### Minor Components

*Dissimilar components:*

- Peaks soils, which are moderately deep to bedrock; on mountains
- Saunook soils, which have a thick dark surface layer; in colluvial positions and drainageways
- Thunder soils, which have more rock fragments throughout than the Edneytown soil; in colluvial positions and drainageways
- Wintergreen soils, which have significantly more clay in the subsoil; in old colluvial positions
- Soils that are moderately well drained; in colluvial positions and drainageways
- Soils that have a very stony surface; on mountains
- Areas of rock outcrop

*Similar components:*

- Soils that have more or less clay in the subsoil; on mountains Soils that are on slopes of less than 15 percent or more than 25 percent

### Soil Properties and Qualities

*Available water capacity:* Moderate (about 7.7 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* 61 to 79 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stones and/or boulders):* None



*Rockiness:* None

*Parent material:* Residuum from granite, granulite, and charnockite

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 4e

*Virginia soil management group:* L

*Hydric soil:* No

## **20C—Edneytown-Peaks complex, 3 to 15 percent slopes, very stony**

#### **Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains

*Position on the landform:* Mountaintops

#### **Map Unit Composition**

*Note:* These Edneytown and Peaks soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Edneytown and similar soils: Typically 60 percent, ranging from about 55 to 65 percent

Peaks and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

#### **Typical Profile**

##### **Edneytown**

*Organic layer:*

0 to 1 inch—slightly decomposed plant material

*Surface layer:*

1 to 4 inches—very dark grayish brown loam

*Subsurface layer:*

4 to 8 inches—brown loam

*Subsoil:*

8 to 23 inches—yellowish brown sandy clay loam

23 to 36 inches—yellowish brown sandy clay loam

*Stratum:*

36 to 64 inches—strong brown sandy loam

*Bedrock:*

64 inches—soft weathered charnockite

##### **Peaks**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 6 inches—dark brown gravelly sandy loam

*Subsoil:*

6 to 14 inches—brown gravelly sandy loam

14 to 23 inches—brown very gravelly sandy loam

*Bedrock:*

23 to 29 inches—soft weathered charnockite

29 inches—moderately hard charnockite

### Minor Components

*Dissimilar components:*

- Saunook soils, which have a thick dark surface layer; in colluvial positions and drainageways
- Thunder soils, which have more rock fragments throughout than the Edneytown and Peaks soils; in colluvial positions and drainageways
- Wintergreen soils, which have significantly more clay in the subsoil; in old colluvial positions
- Soils that are moderately well drained; in colluvial positions and drainageways
- Soils that have a nonstony or extremely stony surface; on mountains
- Areas of rock outcrop

*Similar components:*

- Soils that have more or less clay in the subsoil; on mountains Soils that are on slopes of less than 3 percent or more than 15 percent

### Soil Properties and Qualities

#### Edneytown

*Available water capacity:* Moderate (about 7.7 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* 61 to 79 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum from granite, granulite, and charnockite

#### Peaks

*Available water capacity:* Very low (about 1.1 inches)

*Slowest saturated hydraulic conductivity:* High (about 5.95 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Somewhat excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from granite, granulite, and charnockite

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* 6s

*Virginia soil management group:* Edneytown—L; Peaks—JJ

*Hydric soil:* No

## **20E—Edneytown-Peaks complex, 15 to 35 percent slopes, very stony**

### **Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains

*Position on the landform:* Mountaintops and mountain flanks

### **Map Unit Composition**

*Note:* These Edneytown and Peaks soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Edneytown and similar soils: Typically 60 percent, ranging from about 55 to 65 percent

Peaks and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

### **Typical Profile**

#### **Edneytown**

*Organic layer:*

0 to 1 inch—slightly decomposed plant material

*Surface layer:*

1 to 4 inches—very dark grayish brown loam

*Subsurface layer:*

4 to 8 inches—brown loam

*Subsoil:*

8 to 23 inches—yellowish brown sandy clay loam

23 to 36 inches—yellowish brown sandy clay loam

*Stratum:*

36 to 64 inches—strong brown sandy loam

*Bedrock:*

64 inches—soft weathered charnockite

#### **Peaks**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 6 inches—dark brown gravelly sandy loam

*Subsoil:*

6 to 14 inches—brown gravelly sandy loam

14 to 23 inches—brown very gravelly sandy loam

*Bedrock:*

23 to 29 inches—soft weathered charnockite

29 inches—moderately hard charnockite

### **Minor Components**

*Dissimilar components:*

- Saunook soils, which have a thick dark surface layer; in colluvial positions and drainageways
- Thunder soils, which have more rock fragments throughout than the Edneytown and Peaks soils; in colluvial positions and drainageways
- Wintergreen soils, which have significantly more clay in the subsoil; in old colluvial positions
- Soils that are moderately well drained; in colluvial positions and drainageways
- Soils that have a nonstony or extremely stony surface; on mountains
- Areas of rock outcrop

*Similar components:*

- Soils that have more or less clay in the subsoil; on mountains Soils that are on slopes of less than 15 percent or more than 35 percent

**Soil Properties and Qualities**

**Edneytown**

*Available water capacity:* Moderate (about 7.7 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* 61 to 79 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum from granite, granulite, and charnockite

**Peaks**

*Available water capacity:* Very low (about 1.1 inches)

*Slowest saturated hydraulic conductivity:* High (about 5.95 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Somewhat excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from granite, granulite, and charnockite

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7s

*Virginia soil management group:* Edneytown—L; Peaks—JJ

*Hydric soil:* No

**20F—Edneytown-Peaks complex, 35 to 70 percent slopes, very stony**

**Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains

*Position on the landform:* Mountain flanks

**Map Unit Composition**

*Note:* These Edneytown and Peaks soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Edneytown and similar soils: Typically 60 percent, ranging from about 55 to 65 percent

Peaks and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

### Typical Profile

#### Edneytown

*Organic layer:*

0 to 1 inch—slightly decomposed plant material

*Surface layer:*

1 to 4 inches—very dark grayish brown loam

*Subsurface layer:*

4 to 8 inches—brown loam

*Subsoil:*

8 to 23 inches—yellowish brown sandy clay loam

23 to 36 inches—yellowish brown sandy clay loam

*Substratum:*

36 to 64 inches—strong brown sandy loam

*Bedrock:*

64 inches—soft weathered charnockite

#### Peaks

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 6 inches—dark brown gravelly sandy loam

*Subsoil:*

6 to 14 inches—brown gravelly sandy loam

14 to 23 inches—brown very gravelly sandy loam

*Bedrock:*

23 to 29 inches—soft weathered charnockite

29 inches—moderately hard charnockite

### Minor Components

*Dissimilar components:*

- Saunook soils, which have a thick dark surface layer; in colluvial positions and drainageways
- Thunder soils, which have more rock fragments throughout than the Edneytown and Peaks soils; in colluvial positions and drainageways
- Wintergreen soils, which have significantly more clay in the subsoil; in old colluvial positions
- Soils that are moderately well drained; in colluvial positions and drainageways
- Soils that have a nonstony or extremely stony surface; on mountains
- Areas of rock outcrop

*Similar components:*

- Soils that have more or less clay in the subsoil; on mountains Soils that are on slopes of less than 35 percent or more than 70 percent

### Soil Properties and Qualities

#### Edneytown

*Available water capacity:* Moderate (about 7.7 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* 61 to 79 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum from granite, granulite, and charnockite

### **Peaks**

*Available water capacity:* Very low (about 1.1 inches)

*Slowest saturated hydraulic conductivity:* High (about 5.95 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Somewhat excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from granite, granulite, and charnockite

### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7e

*Virginia soil management group:* Edneytown—L; Peaks—JJ

*Hydric soil:* No

## **21B—Escatawba loam, 3 to 8 percent slopes**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Base of slopes of hills and mountains

*Position on the landform:* Mountain bases and base slopes

### **Map Unit Composition**

Escatawba and similar soils: Typically 80 percent, ranging from about 75 to 90 percent

### **Typical Profile**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 3 inches—very dark grayish brown loam

*Subsoil:*

3 to 17 inches—yellowish brown loam

17 to 30 inches—yellowish brown loam

30 to 44 inches—strong brown clay loam; yellowish red masses of oxidized iron

44 to 50 inches—variegated yellowish brown and strong brown gravelly clay loam;  
pale brown iron depletions

50 to 65 inches—strong brown cobbly clay loam; pinkish gray iron depletions;  
yellowish red masses of oxidized iron

### **Minor Components**

*Dissimilar components:*

- Berks soils, which are moderately deep to bedrock; on adjacent hills and mountains
- Derroc soils, which are susceptible to flooding; on flood plains



## Soil Survey of Rockbridge County, Virginia

- Laidig soils, which have a fragipan; in colluvial positions and drainageways
- Oriskany soils, which have more rock fragments throughout than the Escatawba soil; in colluvial positions and drainageways
- Purdy soils, which are poorly drained; on old stream terraces
- Tygart soils, which are somewhat poorly; on old stream terraces
- Soils that are moderately well drained; in old colluvial positions
- Soils that have a very stony surface; in old colluvial positions

### *Similar components:*

- Tumbling soils, which are well drained; in old colluvial positions
- Vanella soils, which are well drained; in old colluvial positions
- Soils that have less clay and more sand in the subsoil; in old colluvial positions
- Soils that are deep to bedrock; in old colluvial positions
- Soils that have a gravelly surface layer; in old colluvial positions
- Soils that are on slopes of less than 3 percent or more than 8 percent

### **Soil Properties and Qualities**

*Available water capacity:* Moderate (about 8.3 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* About 30 to 48 inches

*Water table kind:* Perched

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stones and/or boulders):* None

*Rockiness:* None

*Parent material:* Old colluvium derived from acid sandstone, siltstone, and shale

### **Interpretive Groups**

*Prime farmland:* All areas are prime farmland

*Land capability class:* 2e

*Virginia soil management group:* L

*Hydric soil:* No

## **21C—Escatawba loam, 8 to 15 percent slopes**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Base of slopes of hills and mountains

*Position on the landform:* Mountain bases and base slopes

### **Map Unit Composition**

Escatawba and similar soils: Typically 80 percent, ranging from about 75 to 90 percent

### **Typical Profile**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 3 inches—very dark grayish brown loam

*Subsoil:*

3 to 17 inches—yellowish brown loam

## Soil Survey of Rockbridge County, Virginia

- 17 to 30 inches—yellowish brown loam
- 30 to 44 inches—strong brown clay loam; yellowish red masses of oxidized iron
- 44 to 50 inches—variegated yellowish brown and strong brown gravelly clay loam; pale brown iron depletions
- 50 to 65 inches—strong brown cobbly clay loam; pinkish gray iron depletions; yellowish red masses of oxidized iron

### Minor Components

#### *Dissimilar components:*

- Berks soils, which are moderately deep to bedrock; on adjacent hills and mountains
- Derroc soils, which are susceptible to flooding; on flood plains
- Laidig soils, which have a fragipan; in colluvial positions and drainageways
- Oriskany soils, which have more rock fragments throughout than the Escatawba soil; in colluvial positions and drainageways
- Purdy soils, which are poorly drained; on old stream terraces
- Tygart soils, which are somewhat poorly; on old stream terraces
- Soils that are moderately well drained; in old colluvial positions
- Soils that have a very stony surface; in old colluvial positions

#### *Similar components:*

- Tumbling soils, which are well drained; in old colluvial positions
- Vanella soils, which are well drained; in old colluvial positions
- Soils that have less clay and more sand in the subsoil; in old colluvial positions
- Soils that are deep to bedrock; in old colluvial positions
- Soils that have a gravelly surface layer; in old colluvial positions
- Soils that are on slopes of less than 8 percent or more than 15 percent

### Soil Properties and Qualities

*Available water capacity:* Moderate (about 8.3 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* About 30 to 48 inches

*Water table kind:* Perched

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stones and/or boulders):* None

*Rockiness:* None

*Parent material:* Old colluvium derived from acid sandstone, siltstone, and shale

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* 3e

*Virginia soil management group:* L

*Hydric soil:* No

## 22B—Frederick silt loam, 3 to 8 percent slopes

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills

*Position on the landform:* Interfluves

### Map Unit Composition

Frederick and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

### Typical Profile

*Surface layer:*

0 to 9 inches—brown silt loam

*Subsoil:*

9 to 16 inches—yellowish red silty clay loam

16 to 25 inches—red clay

25 to 41 inches—red clay

41 to 74 inches—red clay; strong brown lithochromic mottles

### Minor Components

*Dissimilar components:*

- Caneyville soils, which are moderately deep to bedrock; on hills
- Slabtown soils, which are moderately well drained; in local colluvial positions
- Areas of rock outcrop
- Areas that have sinkholes

*Similar components:*

- Groseclose soils, which have less clay in the lower part of the profile than the Frederick soil; on hills
- Lodi soils, which have less clay in the lower part of the profile; on hills
- Watahala soils, which have more chert gravel in the upper part of the subsoil and have a clayey subsoil at a greater depth; on hills
- Soils that are deep to bedrock; on hills
- Soils that have a loam surface layer; on hills
- Soils that have a gravelly surface layer; on hills
- Soils that are on slopes of less than 3 percent or more than 8 percent

### Soil Properties and Qualities

*Available water capacity:* Moderate (about 8.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stones and/or boulders):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, cherty limestone, and dolomitic limestone

### Interpretive Groups

*Prime farmland:* All areas are prime farmland

*Land capability class:* 2e

*Virginia soil management group:* M

*Hydric soil:* No



Figure 9.—An example of Frederick silt loam, 8 to 15 percent slopes planted to no-tillage corn and alfalfa.

## 22C—Frederick silt loam, 8 to 15 percent slopes

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills (fig. 9)

*Position on the landform:* Interfluves

### Map Unit Composition

Frederick and similar soils: Typically 80 percent, ranging from about 75 to 85 percent

### Typical Profile

#### *Surface layer:*

0 to 9 inches—brown silt loam

#### *Subsoil:*

9 to 16 inches—yellowish red silty clay loam

16 to 25 inches—red clay

25 to 41 inches—red clay

41 to 74 inches—red clay; strong brown lithochromic mottles

### Minor Components

#### *Dissimilar components:*

- Caneyville soils, which are moderately deep to bedrock; on hills
- Slabtown soils, which are moderately well drained; in local colluvial positions
- Areas of rock outcrop
- Areas that have sinkholes

*Similar components:*

- Groseclose soils, which have less clay in the lower part of the profile than the Frederick soil; on hills
- Lodi soils, which have less clay in the lower part of the profile; on hills
- Watahala soils, which have more chert gravel in the upper part of the subsoil and have a clayey subsoil at a greater depth; on hills
- Soils that are deep to bedrock; on hills
- Soils that have a loam surface layer; on hills
- Soils that have a gravelly surface layer; on hills
- Soils that are on slopes of less than 8 percent or more than 15 percent

**Soil Properties and Qualities**

*Available water capacity:* Moderate (about 8.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stones and/or boulders):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, cherty limestone, and dolomitic limestone

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 3e

*Virginia soil management group:* M

*Hydric soil:* No

**22D—Frederick silt loam, 15 to 25 percent slopes**

**Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills

*Position on the landform:* Interfluves and side slopes

**Map Unit Composition**

Frederick and similar soils: Typically 80 percent, ranging from about 75 to 85 percent

**Typical Profile**

*Surface layer:*

0 to 9 inches—brown silt loam

*Subsoil:*

9 to 16 inches—yellowish red silty clay loam

16 to 25 inches—red clay

25 to 41 inches—red clay

41 to 74 inches—red clay; strong brown lithochromic mottles

**Minor Components**

*Dissimilar components:*

- Caneyville soils, which are moderately deep to bedrock; on hills



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- Slabtown soils, which are moderately well drained; in local colluvial positions
- Areas of rock outcrop
- Areas that have sinkholes

### *Similar components:*

- Groseclose soils, which have less clay in the lower part of the profile than the Frederick soil; on hills
- Lodi soils, which have less clay in the lower part of the profile; on hills
- Watahala soils, which have more chert gravel in the upper part of the subsoil and have a clayey subsoil at a greater depth; on hills
- Soils that are deep to bedrock; on hills
- Soils that have a loam surface layer; on hills
- Soils that have a gravelly surface layer; on hills
- Soils that are on slopes of less than 15 percent or more than 25 percent

### **Soil Properties and Qualities**

*Available water capacity:* Moderate (about 8.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stones and/or boulders):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, cherty limestone, and dolomitic limestone

### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 4e

*Virginia soil management group:* M

*Hydric soil:* No

## **23E—Frederick-Caneyville complex, 25 to 35 percent slopes**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills

*Position on the landform:* Side slopes

### **Map Unit Composition**

*Note:* These Frederick and Caneyville soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Frederick and similar soils: Typically 65 percent, ranging from about 55 to 75 percent

Caneyville and similar soils: Typically 30 percent, ranging from about 20 to 40 percent

### **Typical Profile**

#### **Frederick**

*Surface layer:*

0 to 9 inches—brown silt loam



*Subsoil:*

- 9 to 16 inches—yellowish red silty clay loam
- 16 to 25 inches—red clay
- 25 to 41 inches—red clay
- 41 to 74 inches—red clay; strong brown lithochromic mottles

**Caneyville**

*Surface layer:*

- 0 to 3 inches—brown silt loam

*Subsoil:*

- 3 to 6 inches—strong brown silt loam
- 6 to 12 inches—yellowish red silty clay loam
- 12 to 25 inches—red clay

*Bedrock:*

- 25 inches—hard limestone

**Minor Components**

*Dissimilar components:*

- Slabtown soils, which are moderately well drained; in local colluvial positions
- Areas of rock outcrop
- Areas that have sinkholes

*Similar components:*

- Groseclose soils, which have less clay in the lower part of the profile than the Frederick and Caneyville soils; on hills
- Lodi soils, which have less clay in the lower part of the profile; on hills
- Opequon soils, which are shallow to bedrock; on hills
- Watahala soils, which have more chert gravel in the upper part of the subsoil and have a clayey subsoil at a greater depth, on hills
- Soils that are deep to bedrock; on hills
- Soils that have a loam surface layer; on hills
- Soils that have a gravelly surface layer; on hills
- Soils that are on slopes of less than 25 percent or more than 35 percent

**Soil Properties and Qualities**

**Frederick**

*Available water capacity:* Moderate (about 8.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stones and/or boulders):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, cherty limestone, and dolomitic limestone

**Caneyville**

*Available water capacity:* Low (about 3.5 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stones and/or boulders):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, cherty limestone, and dolomitic limestone

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 6e

*Virginia soil management group:* Frederick—M; Caneyville—Y

*Hydric soil:* No

### **24C—Frederick-Caneyville complex, 3 to 15 percent slopes, very rocky**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills

*Position on the landform:* Interfluves

#### **Map Unit Composition**

*Note:* These Frederick and Caneyville soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Frederick and similar soils: Typically 45 percent, ranging from about 40 to 50 percent

Caneyville and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

#### **Typical Profile**

##### **Frederick**

*Surface layer:*

0 to 9 inches—brown silt loam

*Subsoil:*

9 to 16 inches—yellowish red silty clay loam

16 to 25 inches—red clay

25 to 41 inches—red clay

41 to 74 inches—red clay; strong brown lithochromic mottles

##### **Caneyville**

*Surface layer:*

0 to 3 inches—brown silt loam

*Subsoil:*

3 to 6 inches—strong brown silt loam

6 to 12 inches—yellowish red silty clay loam

12 to 25 inches—red clay

*Bedrock:*

25 inches—hard limestone

#### **Minor Components**

*Dissimilar components:*

- Slabtown soils, which are moderately well drained; in local colluvial positions

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- Areas of have less than 2 percent or more than 10 percent rock outcrop
- Areas that have sinkholes

### *Similar components:*

- Groseclose soils, which have less clay in the lower part of the profile than the Frederick and Caneyville soils; on hills
- Lodi soils, which have less clay in the lower part of the profile; on hills
- Opequon soils, which are shallow to bedrock; on hills
- Watahala soils, which have more chert gravel in the upper part of the subsoil and have a clayey subsoil at a greater depth; on hills
- Soils that are deep to bedrock; on hills
- Soils that have a loam surface layer; on hills
- Soils that have a gravelly surface layer; on hills
- Soils that are on slopes of less than 3 percent or more than 15 percent

### **Soil Properties and Qualities**

#### **Frederick**

*Available water capacity:* Moderate (about 8.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stones and/or boulders):* None

*Rockiness:* 2 to 10 percent rock outcrop of limestone, cherty limestone or dolomitic limestone

*Parent material:* Residuum weathered from limestone, cherty limestone, and dolomitic limestone

#### **Caneyville**

*Available water capacity:* Low (about 3.5 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stones and/or boulders):* None

*Rockiness:* 2 to 10 percent rock outcrop of limestone, cherty limestone or dolomitic limestone

*Parent material:* Residuum weathered from limestone, cherty limestone, and dolomitic limestone

### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 6s

*Virginia soil management group:* Frederick—M; Caneyville—Y

*Hydric soil:* No

## **24E—Frederick-Caneyville complex, 15 to 35 percent slopes, very rocky**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills

*Position on the landform:* Interfluves and side slopes

### **Map Unit Composition**

*Note:* These Frederick and Caneyville soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Frederick and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

Caneyville and similar soils: Typically 38 percent, ranging from about 35 to 45 percent

### **Typical Profile**

#### **Frederick**

*Surface layer:*

0 to 9 inches—brown silt loam

*Subsoil:*

9 to 16 inches—yellowish red silty clay loam

16 to 25 inches—red clay

25 to 41 inches—red clay

41 to 74 inches—red clay; strong brown lithochromic mottles

#### **Caneyville**

*Surface layer:*

0 to 3 inches—brown silt loam

*Subsoil:*

3 to 6 inches—strong brown silt loam

6 to 12 inches—yellowish red silty clay loam

12 to 25 inches—red clay

*Bedrock:*

25 inches—hard limestone

### **Minor Components**

*Dissimilar components:*

- Slabtown soils, which are moderately well drained; in local colluvial positions
- Areas of less than 2 percent or more than 10 percent rock outcrop
- Areas that have sinkholes

*Similar components:*

- Groseclose soils, which have less clay in the lower part of the profile than the Frederick and Caneyville soils; on hills
- Lodi soils, which have less clay in the lower part of the profile; on hills
- Opequon soils, which are shallow to bedrock; on hills
- Watahala soils, which have more chert gravel in the upper part of the subsoil and have a clayey subsoil at a greater depth; on hills
- Soils that are deep to bedrock; on hills
- Soils that have a loam surface layer; on hills
- Soils that have a gravelly surface layer; on hills
- Soils that are on slopes of less than 15 percent or more than 35 percent

### Soil Properties and Qualities

#### Frederick

*Available water capacity:* Moderate (about 8.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stones and/or boulders):* None

*Rockiness:* 2 to 10 percent rock outcrop of limestone, cherty limestone or dolomitic limestone

*Parent material:* Residuum weathered from limestone, cherty limestone, and dolomitic limestone

#### Caneyville

*Available water capacity:* Low (about 3.5 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stones and/or boulders):* None

*Rockiness:* 2 to 10 percent rock outcrop of limestone, cherty limestone or dolomitic limestone

*Parent material:* Residuum weathered from limestone, cherty limestone, and dolomitic limestone

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* 6s

*Virginia soil management group:* Frederick—M; Caneyville—Y

*Hydric soil:* No

## 25C—Frederick-Watahala complex, 8 to 15 percent slopes

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills

*Position on the landform:* Interfluves

### Map Unit Composition

*Note:* These Frederick and Watahala soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Frederick and similar soils: Typically 60 percent, ranging from about 55 to 65 percent

Watahala and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

### Typical Profile

#### Frederick

*Surface layer:*

0 to 5 inches—brown gravelly silt loam

*Subsurface layer:*

5 to 11 inches—very pale brown silt loam

*Subsoil:*

11 to 16 inches—reddish yellow silty clay loam

16 to 23 inches—yellowish red clay

23 to 62 inches—yellowish red clay

#### Watahala

*Surface layer:*

0 to 4 inches—very dark grayish brown gravelly silt loam

*Subsurface layer:*

4 to 15 inches—yellowish brown gravelly silt loam

*Subsoil:*

15 to 28 inches—yellowish brown very gravelly loam

28 to 42 inches—strong brown gravelly silty clay loam; yellowish red lithochromic mottles

42 to 60 inches—yellowish red silty clay; strong brown lithochromic mottles

### Minor Components

*Dissimilar components:*

- Caneyville soils, which are moderately deep to bedrock; on hills
- Slabtown soils, which are moderately well drained; in local colluvial positions
- Soils that have a cobbly loam surface layer; on hills
- Areas of rock outcrop
- Areas that have sinkholes

*Similar components:*

- Groseclose soils, which have less clay in the lower part of the profile than the Frederick and Watahala soils; on hills
- Lodi soils, which have less clay in the lower part of the profile; on hills
- Soils that are deep to bedrock; on hills
- Soils that have less gravel in the surface layer; on hills
- Soils that are on slopes of less than 8 percent or more than 15 percent

### Soil Properties and Qualities

#### Frederick

*Available water capacity:* Moderate (about 7.5 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stones and/or boulders):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, cherty limestone, and dolomitic limestone

#### Watahala

*Available water capacity:* Moderate (about 6.2 inches)



*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)  
*Depth class:* Very deep (more than 60 inches)  
*Depth to root-restrictive feature:* 20 to 50 inches to strongly contrasting textural stratification  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* Moderate  
*Surface fragments (stones and/or boulders):* None  
*Rockiness:* None  
*Parent material:* Gravelly residuum over clayey residuum weathered from cherty limestone and cherty dolomitic limestone

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland  
*Land capability class:* 3e  
*Virginia soil management group:* M  
*Hydric soil:* No

## **25D—Frederick-Watahala complex, 15 to 25 percent slopes**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)  
*Landform:* Hills  
*Position on the landform:* Interfluves and side slopes

#### **Map Unit Composition**

*Note:* These Frederick and Watahala soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Frederick and similar soils: Typically 45 percent, ranging from about 40 to 50 percent  
Watahala and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

#### **Typical Profile**

##### **Frederick**

###### *Surface layer:*

0 to 5 inches—brown gravelly silt loam

###### *Subsurface layer:*

5 to 11 inches—very pale brown silt loam

###### *Subsoil:*

11 to 16 inches—reddish yellow silty clay loam

16 to 23 inches—yellowish red clay

23 to 62 inches—yellowish red clay

##### **Watahala**

###### *Surface layer:*

0 to 4 inches—very dark grayish brown gravelly silt loam

###### *Subsurface layer:*

4 to 15 inches—yellowish brown gravelly silt loam

###### *Subsoil:*

15 to 28 inches—yellowish brown very gravelly loam

28 to 42 inches—strong brown gravelly silty clay loam; yellowish red lithochromic mottles

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42 to 60 inches—yellowish red silty clay; strong brown lithochromic mottles

### Minor Components

#### *Dissimilar components:*

- Caneyville soils, which are moderately deep to bedrock; on hills
- Slabtown soils, which are moderately well drained; in local colluvial positions
- Soils that have a cobbly loam surface layer; on hills
- Areas of rock outcrop
- Areas that have sinkholes

#### *Similar components:*

- Groseclose soils, which have less clay in the lower part of the profile than the Frederick and Watahala soils; on hills
- Lodi soils, which have less clay in the lower part of the profile; on hills
- Soils that are deep to bedrock; on hills
- Soils that have less gravel in the surface layer; on hills
- Soils that are on slopes of less than 15 percent or more than 25 percent

### Soil Properties and Qualities

#### **Frederick**

*Available water capacity:* Moderate (about 7.5 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stones and/or boulders):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, cherty limestone, and dolomitic limestone

#### **Watahala**

*Available water capacity:* Moderate (about 6.2 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* 20 to 50 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stones and/or boulders):* None

*Rockiness:* None

*Parent material:* Gravelly residuum over clayey residuum weathered from cherty limestone and cherty dolomitic limestone

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* 4e

*Virginia soil management group:* M

*Hydric soil:* No

## **25E—Frederick-Watahala complex, 25 to 35 percent slopes**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills

*Position on the landform:* Side slopes

### **Map Unit Composition**

*Note:* These Frederick and Watahala soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Frederick and similar soils: Typically 50 percent, ranging from about 40 to 60 percent

Watahala and similar soils: Typically 40 percent, ranging from about 30 to 50 percent

### **Typical Profile**

#### **Frederick**

*Surface layer:*

0 to 5 inches—brown gravelly silt loam

*Subsurface layer:*

5 to 11 inches—very pale brown silt loam

*Subsoil:*

11 to 16 inches—reddish yellow silty clay loam

16 to 23 inches—yellowish red clay

23 to 62 inches—yellowish red clay

#### **Watahala**

*Surface layer:*

0 to 4 inches—very dark grayish brown gravelly silt loam

*Subsurface layer:*

4 to 15 inches—yellowish brown gravelly silt loam

*Subsoil:*

15 to 28 inches—yellowish brown very gravelly loam

28 to 42 inches—strong brown gravelly silty clay loam; yellowish red lithochromic mottles

42 to 60 inches—yellowish red silty clay; strong brown lithochromic mottles

### **Minor Components**

*Dissimilar components:*

- Caneyville soils, which are moderately deep to bedrock; on hills
- Opequon soils, which are shallow to bedrock; on hills
- Slabtown soils, which are moderately well drained; in local colluvial positions
- Soils that have a cobbly loam surface layer; on hills
- Areas of rock outcrop
- Areas that have sinkholes

*Similar components:*

- Groseclose soils, which have less clay in the lower part of the profile than the Frederick and Watahala soils; on hills
- Lodi soils, which have less clay in the lower part of the profile; on hills
- Soils that are deep to bedrock; on hills
- Soils that have less gravel in the surface layer; on hills
- Soils that are on slopes of less than 25 percent or more than 35 percent

### Soil Properties and Qualities

#### Frederick

*Available water capacity:* Moderate (about 7.5 inches)  
*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)  
*Depth class:* Very deep (more than 60 inches)  
*Depth to root-restrictive feature:* More than 60 inches  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* Moderate  
*Surface fragments (stones and/or boulders):* None  
*Rockiness:* None  
*Parent material:* Residuum weathered from limestone, cherty limestone, and dolomitic limestone

#### Watahala

*Available water capacity:* Moderate (about 6.2 inches)  
*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)  
*Depth class:* Very deep (more than 60 inches)  
*Depth to root-restrictive feature:* 20 to 50 inches to strongly contrasting textural stratification  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* Moderate  
*Surface fragments (stones and/or boulders):* None  
*Rockiness:* None  
*Parent material:* Gravelly residuum over clayey residuum weathered from cherty limestone and cherty dolomitic limestone

### Interpretive Groups

*Prime farmland:* Not prime farmland  
*Land capability class:* 6e  
*Virginia soil management group:* M  
*Hydric soil:* No

## 26A—Gladehill fine sandy loam, 0 to 3 percent slopes, occasionally flooded

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)  
*Landform:* Flood plains along rivers mainly underlain by limestone and dolomitic limestone (fig. 10)  
*Position on the landform:* Treads

### Map Unit Composition

Gladehill and similar soils: Typically 85 percent, ranging from about 75 to 95 percent

### Typical Profile

*Surface layer:*  
0 to 5 inches—very dark grayish brown fine sandy loam  
5 to 12 inches—dark brown fine sandy loam



Figure 10.—An example of Gladehill fine sandy loam, 0 to 3 percent slopes, occasionally flooded. This prime farmland soil is extensively cropped in the survey area.

*Subsoil:*

12 to 42 inches—dark yellowish brown fine sandy loam

*Substratum:*

42 to 60 inches—dark yellowish brown fine sandy loam

60 to 65 inches—dark brown fine sandy loam

65 to 72 inches—brown fine sandy loam

**Minor Components**

*Dissimilar components:*

- Derroc soils, which have more rock fragments throughout and flood more frequently than the Gladehill soil; on flood plains
- Holly soils, which are poorly drained; on flood plains
- Irongate soils, which are moderately well drained; on flood plains
- Orrville soils, which are somewhat poorly drained; on flood plains
- Soils that do not have a thick dark surface layer; on flood plains
- Soils that have a cobbly surface layer; on flood plains

*Similar components:*

- Wolfgap soils, which are well drained and flood less frequently; on flood plains
- Soils that have a gravelly surface layer; on flood plains
- Soils that are on slopes of more than 3 percent

**Soil Properties and Qualities**

*Available water capacity:* Moderate (about 8.6 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* Occasional

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

#### **Interpretive Groups**

*Prime farmland:* All areas are prime farmland

*Land capability class:* 1

*Virginia soil management group:* A

*Hydric soil:* No

### **27B—Groseclose silt loam, 3 to 8 percent slopes**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills

*Position on the landform:* Interfluves

#### **Map Unit Composition**

Groseclose and similar soils: Typically 80 percent, ranging from about 70 to 90 percent

#### **Typical Profile**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 3 inches—dark yellowish brown silt loam

*Subsoil:*

3 to 8 inches—yellowish brown silt loam

8 to 15 inches—strong brown silty clay loam

15 to 27 inches—strong brown clay

27 to 55 inches—strong brown clay

*Substratum:*

55 to 65 inches—strong brown silty clay

#### **Minor Components**

*Dissimilar components:*

- Needmore soils, which are moderately deep to bedrock; on hills
- Opequon soils, which are shallow to bedrock; on hills
- Slabtown soils, which are moderately well drained; in local colluvial positions
- Tumbling soils, which have sandstone rock fragments throughout; in old colluvial positions
- Vanella soils, which have sandstone rock fragments throughout; in old colluvial positions
- Soils that have cobbles and stones on the surface; on hills
- Areas of rock outcrop

*Similar components:*

- Soils that are deep to bedrock; on hills
- Soils that are on slopes of less than 3 percent or more than 8 percent



### Soil Properties and Qualities

*Available water capacity:* Moderate (about 7.9 inches)  
*Slowest saturated hydraulic conductivity:* Moderately low (about 0.06 in./hr.)  
*Depth class:* Very deep (more than 60 inches)  
*Depth to root-restrictive feature:* More than 60 inches  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* Moderate  
*Surface fragments (stone and/or boulder size):* None  
*Rockiness:* None  
*Parent material:* Residuum weathered from limestone, dolomitic limestone, siltstone, and shale; in some areas calcareous shale and siltstone

### Interpretive Groups

*Prime farmland:* All areas are prime farmland  
*Land capability class:* 2e  
*Virginia soil management group:* M  
*Hydric soil:* No

## 27C—Groseclose silt loam, 8 to 15 percent slopes

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)  
*Landform:* Hills  
*Position on the landform:* Interfluves and nose slopes

### Map Unit Composition

Groseclose and similar soils: Typically 80 percent, ranging from about 70 to 90 percent

### Typical Profile

*Organic layer:*  
0 to 1 inch—moderately decomposed plant material  
*Surface layer:*  
1 to 3 inches—dark yellowish brown silt loam  
*Subsoil:*  
3 to 8 inches—yellowish brown silt loam  
8 to 15 inches—strong brown silty clay loam  
15 to 27 inches—strong brown clay  
27 to 55 inches—strong brown clay  
*Substratum:*  
55 to 65 inches—strong brown silty clay

### Minor Components

*Dissimilar components:*

- Needmore soils, which are moderately deep to bedrock; on hills
- Opequon soils, which are shallow to bedrock; on hills
- Slabtown soils, which are moderately well drained; in local colluvial positions
- Tumbling soils, which have sandstone rock fragments throughout; in old colluvial positions
- Vanella soils, which have sandstone rock fragments throughout; in old colluvial positions

## Soil Survey of Rockbridge County, Virginia

- Soils that have cobbles and stones on the surface; on hills
- Areas of rock outcrop

### *Similar components:*

- Soils that are deep to bedrock; on hills
- Soils that are on slopes of less than 8 percent or more than 15 percent

### **Soil Properties and Qualities**

*Available water capacity:* Moderate (about 7.9 inches)

*Slowest saturated hydraulic conductivity:* Moderately low (about 0.06 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, dolomitic limestone, siltstone, and shale; in some areas calcareous shale and siltstone

### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 3e

*Virginia soil management group:* M

*Hydric soil:* No

## **27D—Groseclose silt loam, 15 to 25 percent slopes**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills

*Position on the landform:* Interfluves, nose slopes, and side slopes

### **Map Unit Composition**

Groseclose and similar soils: Typically 80 percent, ranging from about 70 to 90 percent

### **Typical Profile**

#### *Organic layer:*

0 to 1 inch—moderately decomposed plant material

#### *Surface layer:*

1 to 3 inches—dark yellowish brown silt loam

#### *Subsoil:*

3 to 8 inches—yellowish brown silt loam

8 to 15 inches—strong brown silty clay loam

15 to 27 inches—strong brown clay

27 to 55 inches—strong brown clay

#### *Substratum:*

55 to 65 inches—strong brown silty clay

### **Minor Components**

#### *Dissimilar components:*

- Needmore soils, which are moderately deep to bedrock; on hills

## Soil Survey of Rockbridge County, Virginia

- Opequon soils, which are shallow to bedrock; on hills
- Slabtown soils, which are moderately well drained; in local colluvial positions
- Tumbling soils, which have sandstone rock fragments throughout; in old colluvial positions
- Vanella soils, which have sandstone rock fragments throughout; in old colluvial positions
- Soils that have cobbles and stones on the surface; on hills
- Areas of rock outcrop

### *Similar components:*

- Soils that are deep to bedrock; on hills
- Soils that are on slopes of less than 15 percent or more than 25 percent

### **Soil Properties and Qualities**

*Available water capacity:* Moderate (about 7.9 inches)

*Slowest saturated hydraulic conductivity:* Moderately low (about 0.06 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, dolomitic limestone, siltstone, and shale; in some areas calcareous shale and siltstone

### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 4e

*Virginia soil management group:* M

*Hydric soil:* No

## **28E—Groseclose-Needmore complex, 25 to 35 percent slopes**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills

*Position on the landform:* Side slopes

### **Map Unit Composition**

*Note:* These Groseclose and Needmore soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Groseclose and similar soils: Typically 50 percent, ranging from about 45 to 55 percent

Needmore and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

### **Typical Profile**

#### **Groseclose**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

## Soil Survey of Rockbridge County, Virginia

### *Surface layer:*

1 to 3 inches—dark yellowish brown silt loam

### *Subsoil:*

3 to 8 inches—yellowish brown silt loam

8 to 15 inches—strong brown silty clay loam

15 to 27 inches—strong brown clay

27 to 55 inches—strong brown clay

### *Substratum:*

55 to 65 inches—strong brown silty clay

### **Needmore**

#### *Organic layer:*

0 to 2 inches—moderately decomposed plant material

#### *Surface layer:*

2 to 5 inches—brown silt loam

#### *Subsoil:*

5 to 14 inches—yellowish brown silty clay; strong brown lithochromic mottles

14 to 21 inches—strong brown clay; yellowish brown lithochromic mottles

21 to 33 inches—variegated strong brown and yellowish brown channery silty clay loam

#### *Bedrock:*

33 inches—weathered calcareous shale interbedded with limestone

### **Minor Components**

#### *Dissimilar components:*

- Slabtown soils, which are moderately well drained; in local colluvial positions
- Tumbling soils, which have sandstone rock fragments throughout; in old colluvial positions
- Vanella soils, which have sandstone rock fragments throughout; in old colluvial positions
- Soils that have cobbles and stones on the surface; on hills
- Areas of rock outcrop

#### *Similar components:*

- Opequon soils, which are shallow to bedrock; on hills
- Soils that are deep to bedrock; on hills
- Soils that are on slopes of less than 25 percent or more than 35 percent

### **Soil Properties and Qualities**

#### **Groseclose**

*Available water capacity:* Moderate (about 7.9 inches)

*Slowest saturated hydraulic conductivity:* Moderately low (about 0.06 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, dolomitic limestone, siltstone, and shale; in some areas calcareous shale and siltstone

#### **Needmore**

*Available water capacity:* Low (about 4.4 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)  
*Depth class:* Moderately deep (20 to 40 inches)  
*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* Moderate  
*Surface fragments (stone and/or boulder size):* None  
*Rockiness:* None  
*Parent material:* Residuum weathered from limestone, calcareous shale, and siltstone

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland  
*Land capability class:* 6e  
*Virginia soil management group:* Groseclose—M; Needmore—Y  
*Hydric soil:* No

### **29C—Groseclose-Needmore-Urban land complex, 0 to 15 percent slopes**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)  
*Landform:* Urban or built-up areas on nearly level land and hills within the vicinity of the city of Lexington  
*Position on the landform:* Interfluves and nose slopes

#### **Map Unit Composition**

*Note:* These Groseclose and Needmore soils and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Groseclose and similar soils: Typically 35 percent, ranging from about 30 to 40 percent  
Needmore and similar soils: Typically 30 percent, ranging from about 25 to 35 percent  
Urban land: Typically 25 percent, ranging from about 20 to 30 percent

#### **Typical Profile**

##### **Groseclose**

###### *Organic layer:*

0 to 1 inch—moderately decomposed plant material

###### *Surface layer:*

1 to 3 inches—dark yellowish brown silt loam

###### *Subsoil:*

3 to 8 inches—yellowish brown silt loam

8 to 15 inches—strong brown silty clay loam

15 to 27 inches—strong brown clay

27 to 55 inches—strong brown clay

###### *Substratum:*

55 to 65 inches—strong brown silty clay

##### **Needmore**

###### *Organic layer:*

0 to 2 inches—moderately decomposed plant material

## Soil Survey of Rockbridge County, Virginia

### *Surface layer:*

2 to 5 inches—brown silt loam

### *Subsoil:*

5 to 14 inches—yellowish brown silty clay; strong brown lithochromic mottles

14 to 21 inches—strong brown clay; yellowish brown lithochromic mottles

21 to 33 inches—variegated strong brown and yellowish brown channery silty clay loam

### *Bedrock:*

33 inches—weathered calcareous shale interbedded with limestone

### **Urban land**

This part of the map unit consists of areas covered by impervious surfaces such as asphalt roadways and parking lots, concrete structures, and buildings. A typical profile is not given because the original soils have been disturbed.

### **Minor Components**

#### *Dissimilar components:*

- Slabtown soils, which are moderately well drained; in undisturbed local colluvial positions
- Areas of rock outcrop
- Areas that have sinkholes
- Soils that have been disturbed by grading, cutting, and filling

#### *Similar components:*

- Carbo soils, which are very fine; on undisturbed nearly level land and hills
- Opequon soils, which are shallow to bedrock; on undisturbed nearly level land and hills
- Soils that are deep to bedrock; on undisturbed nearly level land and hills
- Soils that are on slopes of more than 15 percent

### **Soil Properties and Qualities**

#### **Groseclose**

*Available water capacity:* Moderate (about 7.9 inches)

*Slowest saturated hydraulic conductivity:* Moderately low (about 0.06 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, dolomitic limestone, siltstone, and shale; in some areas calcareous shale and siltstone

#### **Needmore**

*Available water capacity:* Low (about 4.4 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet



*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, calcareous shale, and siltstone

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* Groseclose and Needmore—3e; Urban land—8

*Virginia soil management group:* Groseclose—M; Needmore—Y; Urban land—none assigned

*Hydric soil:* Groseclose and Needmore—no; Urban land—unranked

### **30A—Holly-Orrville complex, 0 to 3 percent slopes, occasionally flooded**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Depressions and backswamps on flood plains along creeks and rivers mainly underlain by acid and nonacid sedimentary rocks, in areas throughout the county

*Position on the landform:* Treads

#### **Map Unit Composition**

*Note:* These Holly and Orrville soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Holly and similar soils: Typically 50 percent, ranging from about 35 to 55 percent

Orrville and similar soils: Typically 45 percent, ranging from about 40 to 65 percent

#### **Typical Profile**

##### **Holly**

*Surface layer:*

0 to 4 inches—very dark gray silt loam; dark brown iron-manganese masses

*Subsoil:*

4 to 9 inches—dark gray silt loam; dark brown and dark yellowish brown iron-manganese masses

9 to 11 inches—dark gray sandy loam; dark brown iron-manganese masses

11 to 15 inches—dark gray silt loam; dark brown iron-manganese masses

15 to 21 inches—grayish brown silt loam; dark yellowish brown, yellowish brown and brown masses of oxidized iron

21 to 42 inches—light brownish gray silt loam; dark yellowish brown and brown masses of oxidized iron

*Substratum:*

42 to 44 inches—grayish brown sandy loam; brown masses of oxidized iron

44 to 52 inches—gray silt loam; brown masses of oxidized iron and dark brown iron-manganese masses

52 to 54 inches—grayish brown sandy loam; yellowish brown and brown masses of oxidized iron and dark brown iron-manganese masses

54 to 65 inches—gray silt loam; yellowish brown masses of oxidized iron

**Orrville**

*Surface layer:*

0 to 9 inches—dark grayish brown silt loam

*Subsoil:*

9 to 13 inches—yellowish brown silt loam

13 to 25 inches—grayish brown silt loam; light brownish gray iron depletions;  
yellowish brown masses of oxidized iron

25 to 40 inches—grayish brown silt loam; gray iron depletions; yellowish red and  
reddish yellow masses of oxidized iron

*Substratum:*

40 to 50 inches—gray silt loam; strong brown, reddish yellow and yellowish red  
masses of oxidized iron

50 to 65 inches—gray very gravelly loam; reddish yellow and yellowish red masses  
of oxidized iron

**Minor Components**

*Dissimilar components:*

- Irongate soils, which are moderately well drained; on flood plains
- Lobdell soils, which are moderately well drained; on flood plains
- Philo soils, which are moderately well drained; on flood plains

*Similar components:*

- Soils that have less sand and also more silt or more clay in the subsoil than the Holly and Orrville soils; on flood plains
- Soils that have a gravelly surface layer; on stream terraces
- Soils that have a more acidic reaction in the surface layer and/or subsoil; on stream terraces
- Soils that have slopes of more than 3 percent

**Soil Properties and Qualities**

**Holly**

*Available water capacity:* Very high (about 12.6 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Poorly drained

*Depth to seasonal water saturation:* About 0 to 12 inches

*Water table kind:* Apparent

*Flooding hazard:* Occasional

*Ponding hazard:* Occasional

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

**Orrville**

*Available water capacity:* High (about 11.1 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Somewhat poorly drained

*Depth to seasonal water saturation:* About 6 to 18 inches

*Water table kind:* Apparent

*Flooding hazard:* Occasional

*Ponding hazard:* Occasional

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 4w

*Virginia soil management group:* Holly—NN; Orrville—HH

*Hydric soil:* Holly—yes; Orrville—no

### **31A—Ingledove loam, 0 to 3 percent slopes, rarely flooded**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Low level stream terraces

*Position on the landform:* Treads and risers

#### **Map Unit Composition**

Ingledove and similar soils: Typically 85 percent, ranging from about 75 to 95 percent

#### **Typical Profile**

*Surface layer:*

0 to 13 inches—dark yellowish brown loam

*Subsoil:*

13 to 52 inches—strong brown loam; black manganese masses

52 to 65 inches—dark yellowish brown clay loam; pale brown iron depletions;  
yellowish red masses of oxidized iron and black manganese masses

#### **Minor Components**

*Dissimilar components:*

- Botetourt soils, which are moderately well drained; on stream terraces
- Soils that have a cobbly surface layer; on stream terraces
- Soils that do not flood; on stream terraces
- Soils that flood more frequently than the Ingledove soil; on flood plains

*Similar components:*

- Soils that have a gravelly surface layer; on stream terraces
- Soils that are on slopes of more than 3 percent

#### **Soil Properties and Qualities**

*Available water capacity:* High (about 11.4 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* Rare

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

#### **Interpretive Groups**

*Prime farmland:* All areas are prime farmland

*Land capability class:* 1

*Virginia soil management group:* A

*Hydric soil:* No

### **32A—Irongate fine sandy loam, 0 to 3 percent slopes, occasionally flooded**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Flood plains along rivers mainly underlain by limestone and dolomitic limestone

*Position on the landform:* Treads

#### **Map Unit Composition**

Irongate and similar soils: Typically 85 percent, ranging from about 70 to 95 percent

#### **Typical Profile**

*Surface layer:*

0 to 10 inches—dark brown fine sandy loam

10 to 21 inches—very dark grayish brown fine sandy loam

*Subsoil:*

21 to 30 inches—brown sandy loam

30 to 42 inches—brown sandy loam; dark grayish brown iron depletions; strong brown masses of oxidized iron

*Substratum:*

42 to 55 inches—brown sandy loam; dark grayish brown iron depletions; strong brown masses of oxidized iron

55 to 62 inches—brown gravelly sandy loam; dark grayish brown iron depletions; strong brown masses of oxidized iron

#### **Minor Components**

*Dissimilar components:*

- Derroc soils, which have more rock fragments throughout than the Irongate soil and flood more frequently; on flood plains
- Gladehill soils, which are well drained; on flood plains
- Holly soils, which are poorly drained; on flood plains
- Orrville soils, which are somewhat poorly drained; on flood plains
- Wolfgap soils, which are well drained; on flood plains
- Soils that do not have a thick dark surface layer; on flood plains landforms
- Soils that have a cobbly surface layer; on flood plains

*Similar components:*

- Soils that have a gravelly surface layer; on flood plains
- Soils that are on slopes of more than 3 percent

#### **Soil Properties and Qualities**

*Available water capacity:* Moderate (about 8.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)  
*Depth class:* Very deep (more than 60 inches)  
*Depth to root-restrictive feature:* More than 60 inches  
*Drainage class:* Moderately well drained  
*Depth to seasonal water saturation:* About 18 to 36 inches  
*Water table kind:* Apparent  
*Flooding hazard:* Occasional  
*Ponding hazard:* None  
*Shrink-swell potential:* Low  
*Surface fragments (stone and/or boulder size):* None  
*Rockiness:* None  
*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

#### **Interpretive Groups**

*Prime farmland:* All areas are prime farmland  
*Land capability class:* 2w  
*Virginia soil management group:* G  
*Hydric soil:* No

### **33C—Litz-Chiswell-Groseclose complex, 8 to 15 percent slopes**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)  
*Landform:* Hills  
*Position on the landform:* Interfluves and nose slopes

#### **Map Unit Composition**

*Note:* These Litz, Chiswell, and Groseclose soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Litz and similar soils: Typically 35 percent, ranging from about 30 to 40 percent  
Chiswell and similar soils: Typically 30 percent, ranging from about 25 to 35 percent  
Groseclose and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

#### **Typical Profile**

##### **Litz**

*Organic layer:*  
0 to 1 inch—moderately decomposed plant material  
*Surface layer:*  
1 to 3 inches—brown channery silt loam  
*Subsoil:*  
3 to 6 inches—dark yellowish brown channery silt loam  
6 to 27 inches—brown very channery silt loam and strong brown silty clay loam  
*Stratum:*  
27 to 32 inches—brown extremely channery silt loam  
*Bedrock:*  
32 to 38 inches—soft weathered dark reddish brown shale  
38 inches—hard fractured reddish brown shale

##### **Chiswell**

*Organic layer:*  
0 to 1 inch—moderately decomposed plant material

## Soil Survey of Rockbridge County, Virginia

### *Surface layer:*

1 to 5 inches—brown channery silt loam

### *Subsoil:*

5 to 10 inches—yellowish brown channery silt loam

10 to 17 inches—yellowish brown extremely channery silt loam

### *Bedrock:*

17 inches—soft weathered brownish yellow shale

## **Groseclose**

### *Organic layer:*

0 to 1 inch—moderately decomposed plant material

### *Surface layer:*

1 to 3 inches—dark yellowish brown silt loam

### *Subsoil:*

3 to 8 inches—yellowish brown silt loam

8 to 15 inches—strong brown silty clay loam

15 to 27 inches—strong brown clay

27 to 55 inches—strong brown clay

### *Substratum:*

55 to 65 inches—strong brown silty clay

## **Minor Components**

### *Dissimilar components:*

- Slabtown soils, which are moderately well drained; in local colluvial positions
- Lostcove soils, which have more rock fragments throughout than the Litz, Chiswell, and Groseclose soils; in colluvial positions and drainageways
- Tumbling soils, which have sandstone rock fragments throughout; in old colluvial positions
- Vanella soils, which have sandstone rock fragments throughout; in old colluvial positions
- Soils that have cobbles and stones on the surface; on hills
- Areas of rock outcrop
- Areas of sinkholes

### *Similar components:*

- Caneyville soils, which are moderately deep to bedrock; on hills
- Frederick soils, which are very deep to bedrock; on hills
- Needmore soils, which are moderately deep to bedrock; on hills
- Opequon soils, which are shallow to bedrock; on hills
- Soils that are deep to bedrock; on hills
- Soils that have a very channery surface layer; on hills
- Soils that are on slopes of less than 8 percent or more than 15 percent

## **Soil Properties and Qualities**

### **Litz**

*Available water capacity:* Low (about 3.1 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None



*Rockiness:* None

*Parent material:* Residuum weathered from shale and siltstone; in some areas calcareous shale and siltstone

**Chiswell**

*Available water capacity:* Very low (about 2.2 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Shallow (10 to 20 inches)

*Depth to root-restrictive feature:* 10 to 20 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from shale and siltstone; in some areas calcareous shale and siltstone

**Groseclose**

*Available water capacity:* Moderate (about 7.9 inches)

*Slowest saturated hydraulic conductivity:* Moderately low (about 0.06 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, dolomitic limestone, siltstone, and shale; in some areas calcareous shale and siltstone

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* Litz and Groseclose—3e; Chiswell—4s

*Virginia soil management group:* Litz and Chiswell—JJ; Groseclose—M

*Hydric soil:* No

**33E—Litz-Chiswell-Groseclose complex, 15 to 35 percent slopes**

**Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills

*Position on the landform:* Interfluves, nose slopes, and side slopes

**Map Unit Composition**

*Note:* These Litz, Chiswell, and Groseclose soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Litz and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Chiswell and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Groseclose and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

### Typical Profile

#### **Litz**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 3 inches—brown channery silt loam

*Subsoil:*

3 to 6 inches—dark yellowish brown channery silt loam

6 to 27 inches—brown very channery silt loam and strong brown silty clay loam

*Stratum:*

27 to 32 inches—brown extremely channery silt loam

*Bedrock:*

32 to 38 inches—soft weathered dark reddish brown shale

38 inches—hard fractured reddish brown shale

#### **Chiswell**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 5 inches—brown channery silt loam

*Subsoil:*

5 to 10 inches—yellowish brown channery silt loam

10 to 17 inches—yellowish brown extremely channery silt loam

*Bedrock:*

17 inches—soft weathered brownish yellow shale

#### **Groseclose**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 3 inches—dark yellowish brown silt loam

*Subsoil:*

3 to 8 inches—yellowish brown silt loam

8 to 15 inches—strong brown silty clay loam

15 to 27 inches—strong brown clay

27 to 55 inches—strong brown clay

*Stratum:*

55 to 65 inches—strong brown silty clay

### Minor Components

*Dissimilar components:*

- Slabtown soils, which are moderately well drained; in local colluvial positions
- Lostcove soils, which have more rock fragments throughout than the Litz, Chiswell, and Groseclose soils; in colluvial positions and drainageways
- Tumbling soils, which have sandstone rock fragments throughout; in old colluvial positions
- Vanella soils, which have sandstone rock fragments throughout; in old colluvial positions
- Soils that have cobbles and stones on the surface; on hills
- Areas of rock outcrop
- Areas of sinkholes

*Similar components:*

- Caneyville soils, which are moderately deep to bedrock; on hills
- Frederick soils, which are very deep to bedrock; on hills

## Soil Survey of Rockbridge County, Virginia

- Needmore soils, which are moderately deep to bedrock; on hills
- Opequon soils, which are shallow to bedrock; on hills
- Soils that are deep to bedrock; on hills
- Soils that have a very channery surface layer; on hills
- Soils that are on slopes of less than 15 percent or more than 35 percent

### Soil Properties and Qualities

#### Litz

*Available water capacity:* Low (about 3.1 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from shale and siltstone; in some areas calcareous shale and siltstone

#### Chiswell

*Available water capacity:* Very low (about 2.2 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Shallow (10 to 20 inches)

*Depth to root-restrictive feature:* 10 to 20 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from shale and siltstone; in some areas calcareous shale and siltstone

#### Groseclose

*Available water capacity:* Moderate (about 7.9 inches)

*Slowest saturated hydraulic conductivity:* Moderately low (about 0.06 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, dolomitic limestone, siltstone, and shale; in some areas calcareous shale and siltstone

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* 6e

*Virginia soil management group:* Litz and Chiswell—JJ; Groseclose—M

*Hydric soil:* No

### **33F—Litz-Chiswell-Groseclose complex, 35 to 55 percent slopes**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills

*Position on the landform:* Side slopes

#### **Map Unit Composition**

*Note:* These Litz, Chiswell, and Groseclose soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Litz and similar soils: Typically 35 percent, ranging from about 25 to 40 percent

Chiswell and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Groseclose and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

#### **Typical Profile**

##### **Litz**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 3 inches—brown channery silt loam

*Subsoil:*

3 to 6 inches—dark yellowish brown channery silt loam

6 to 27 inches—brown very channery silt loam and strong brown silty clay loam

*Substratum:*

27 to 32 inches—brown extremely channery silt loam

*Bedrock:*

32 to 38 inches—soft weathered dark reddish brown shale

38 inches—hard fractured reddish brown shale

##### **Chiswell**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 5 inches—brown channery silt loam

*Subsoil:*

5 to 10 inches—yellowish brown channery silt loam

10 to 17 inches—yellowish brown extremely channery silt loam

*Bedrock:*

17 inches—soft weathered brownish yellow shale

##### **Groseclose**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 3 inches—dark yellowish brown silt loam

*Subsoil:*

3 to 8 inches—yellowish brown silt loam

8 to 15 inches—strong brown silty clay loam

15 to 27 inches—strong brown clay

27 to 55 inches—strong brown clay

*Substratum:*

55 to 65 inches—strong brown silty clay

**Minor Components**

*Dissimilar components:*

- Slabtown soils, which are moderately well drained; in local colluvial positions
- Lostcove soils, which have more rock fragments in the soil than the Litz, Chiswell, and Groseclose soils; in colluvial positions and drainageways
- Tumbling soils, which have sandstone rock fragments throughout; in old colluvial positions
- Vanella soils, which have sandstone rock fragments throughout; in old colluvial positions
- Soils that have cobbles and stones on the surface; on hills
- Areas of rock outcrop
- Areas of sinkholes

*Similar components:*

- Caneyville soils, which are moderately deep to bedrock; on hills
- Frederick soils, which are very deep to bedrock; on hills
- Needmore soils, which are moderately deep to bedrock; on hills
- Opequon soils, which are shallow to bedrock; on hills
- Soils that are deep to bedrock; on hills
- Soils that have a very channery surface layer; on hills
- Soils that are on slopes of less than 35 percent or more than 55 percent

**Soil Properties and Qualities**

**Litz**

*Available water capacity:* Low (about 3.1 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from shale and siltstone; in some areas calcareous shale and siltstone

**Chiswell**

*Available water capacity:* Very low (about 2.2 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Shallow (10 to 20 inches)

*Depth to root-restrictive feature:* 10 to 20 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from shale and siltstone; in some areas calcareous shale and siltstone

**Groseclose**

*Available water capacity:* Moderate (about 7.9 inches)

*Slowest saturated hydraulic conductivity:* Moderately low (about 0.06 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, dolomitic limestone, siltstone, and shale; in some areas calcareous shale and siltstone

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* Litz and Groseclose—7e; Chiswell—7s

*Virginia soil management group:* Litz and Chiswell—JJ; Groseclose—M

*Hydric soil:* No

**34C—Litz-Needmore complex, 3 to 15 percent slopes,  
very stony**

**Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills and mountains

*Position on the landform:* Interfluves, nose slopes, and mountaintops

**Map Unit Composition**

*Note:* These Litz and Needmore soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Litz and similar soils: Typically 55 percent, ranging from about 50 to 60 percent

Needmore and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

**Typical Profile**

**Litz**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 3 inches—brown channery silt loam

*Subsoil:*

3 to 6 inches—dark yellowish brown channery silt loam

6 to 27 inches—brown very channery silt loam and strong brown silty clay loam

*Substratum:*

27 to 32 inches—brown extremely channery silt loam

*Bedrock:*

32 to 38 inches—soft weathered dark reddish brown shale

38 inches—hard fractured reddish brown shale

**Needmore**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material



## Soil Survey of Rockbridge County, Virginia

### *Surface layer:*

2 to 5 inches—brown silt loam

### *Subsoil:*

5 to 14 inches—yellowish brown silty clay; strong brown lithochromic mottles

14 to 21 inches—strong brown clay; yellowish brown lithochromic mottles

21 to 33 inches—variegated strong brown and yellowish brown channery silty clay loam

### *Bedrock:*

33 inches—weathered calcareous shale interbedded with limestone

## Minor Components

### *Dissimilar components:*

- Groseclose soils, which are very deep to bedrock; on hills
- Murrill soils, which are very deep to bedrock; in colluvial positions and drainageways
- Oriskany soils, which are very deep to bedrock; in colluvial positions and drainageways
- Tumbling soils, which are very deep to bedrock; in old colluvial positions
- Vanella soils, which are very deep to bedrock; in old colluvial positions
- Soils that have a nonstony surface; on hills and mountains
- Areas of rock outcrop

### *Similar components:*

- Berks soils, which are moderately deep to bedrock; on hills and mountains
- Opequon soils, which are shallow to bedrock; on hills and mountains
- Weikert soils, which are shallow to bedrock; on hills and mountains Soils that are deep to bedrock; on hills and mountains
- Soils that are on slopes of less than 3 percent or more than 15 percent

## Soil Properties and Qualities

### **Litz**

*Available water capacity:* Low (about 3.1 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from shale and siltstone; in some areas calcareous shale and siltstone

### **Needmore**

*Available water capacity:* Low (about 4.4 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, calcareous shale, and siltstone

### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 6s

*Virginia soil management group:* Litz—JJ; Needmore—Y

*Hydric soil:* No

## **34E—Litz-Needmore complex, 15 to 35 percent slopes, very stony**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills and mountains

*Position on the landform:* Interfluves, nose slopes, side slopes, mountaintops, and mountain flanks

### **Map Unit Composition**

*Note:* These Litz and Needmore soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Litz and similar soils: Typically 55 percent, ranging from about 50 to 60 percent

Needmore and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

### **Typical Profile**

#### **Litz**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 3 inches—brown channery silt loam

*Subsoil:*

3 to 6 inches—dark yellowish brown channery silt loam

6 to 27 inches—brown very channery silt loam and strong brown silty clay loam

*Substratum:*

27 to 32 inches—brown extremely channery silt loam

*Bedrock:*

32 to 38 inches—soft weathered dark reddish brown shale

38 inches—hard fractured reddish brown shale

#### **Needmore**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 5 inches—brown silt loam

*Subsoil:*

5 to 14 inches—yellowish brown silty clay; strong brown lithochromic mottles

14 to 21 inches—strong brown clay; yellowish brown lithochromic mottles

21 to 33 inches—variegated strong brown and yellowish brown channery silty clay loam

*Bedrock:*

33 inches—weathered calcareous shale interbedded with limestone

### Minor Components

#### *Dissimilar components:*

- Groseclose soils, which are very deep to bedrock; on hills
- Murrill soils, which are very deep to bedrock; in colluvial positions and drainageways
- Oriskany soils, which are very deep to bedrock; in colluvial positions and drainageways
- Tumbling soils, which are very deep to bedrock; in old colluvial positions
- Vanella soils, which are very deep to bedrock; in old colluvial positions
- Soils that have a nonstony surface; on hills and mountains
- Areas of rock outcrop

#### *Similar components:*

- Berks soils, which are moderately deep to bedrock; on hills and mountains
- Opequon soils, which are shallow to bedrock; on hills and mountains
- Weikert soils, which are shallow to bedrock; on hills and mountains
- Soils that are deep to bedrock; on hills and mountains
- Soils that are on slopes of less than 15 percent or more than 35 percent

### Soil Properties and Qualities

#### **Litz**

*Available water capacity:* Low (about 3.1 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from shale and siltstone; in some areas calcareous shale and siltstone

#### **Needmore**

*Available water capacity:* Low (about 4.4 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, calcareous shale, and siltstone

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* 7s

*Virginia soil management group:* Litz—JJ; Needmore—Y

*Hydric soil:* No

## **34F—Litz-Needmore complex, 35 to 70 percent slopes, very stony**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills and mountains

*Position on the landform:* Side slopes and mountain flanks

### **Map Unit Composition**

*Note:* These Litz and Needmore soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Litz and similar soils: Typically 55 percent, ranging from about 50 to 60 percent

Needmore and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

### **Typical Profile**

#### **Litz**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 3 inches—brown channery silt loam

*Subsoil:*

3 to 6 inches—dark yellowish brown channery silt loam

6 to 27 inches—brown very channery silt loam and strong brown silty clay loam

*Substratum:*

27 to 32 inches—brown extremely channery silt loam

*Bedrock:*

32 to 38 inches—soft weathered dark reddish brown shale

38 inches—hard fractured reddish brown shale

#### **Needmore**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 5 inches—brown silt loam

*Subsoil:*

5 to 14 inches—yellowish brown silty clay; strong brown lithochromic mottles

14 to 21 inches—strong brown clay; yellowish brown lithochromic mottles

21 to 33 inches—variegated strong brown and yellowish brown channery silty clay loam

*Bedrock:*

33 inches—weathered calcareous shale interbedded with limestone

### **Minor Components**

*Dissimilar components:*

- Groseclose soils, which are very deep to bedrock; on hills
- Murrill soils, which are very deep to bedrock; in colluvial positions and drainageways
- Oriskany soils, which are very deep to bedrock; in colluvial positions and drainageways
- Tumbling soils, which are very deep to bedrock; in old colluvial positions
- Vanella soils, which are very deep to bedrock; in old colluvial positions
- Soils that have a nonstony surface; on hills and mountains
- Areas of rock outcrop

*Similar components:*

- Berks soils, which are moderately deep to bedrock; on hills and mountains
- Opequon soils, which are shallow to bedrock; on hills and mountains
- Weikert soils, which are shallow to bedrock; on hills and mountains Soils that are deep to bedrock; on hills and mountains
- Soils that are on slopes of less than 35 percent or more than 70 percent

**Soil Properties and Qualities**

**Litz**

*Available water capacity:* Low (about 3.1 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from shale and siltstone; in some areas calcareous shale and siltstone

**Needmore**

*Available water capacity:* Low (about 4.4 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, calcareous shale, and siltstone

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7e

*Virginia soil management group:* Litz—JJ; Needmore—Y

*Hydric soil:* No

**35C—Lodi-McClung-Lily complex, 8 to 15 percent slopes**

**Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills and mountains

*Position on the landform:* Interfluves and mountaintops

**Map Unit Composition**

*Note:* These Lodi, McClung, and Lily soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Lodi and similar soils: Typically 40 percent, ranging from about 35 to 45 percent  
McClung and similar soils: Typically 35 percent, ranging from about 30 to 40 percent  
Lily and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

### Typical Profile

#### Lodi

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 7 inches—dark grayish brown gravelly fine sandy loam

*Subsoil:*

7 to 19 inches—yellowish brown fine sandy loam

19 to 31 inches—yellowish red clay

31 to 49 inches—variegated strong brown and yellowish red gravelly clay loam with pockets of clay; yellowish brown lithochromic mottles

*Substratum:*

49 to 67 inches—variegated strong brown and yellowish red gravelly loam; light yellowish brown lithochromic mottles

#### McClung

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 3 inches—light gray sandy loam

*Subsoil:*

3 to 11 inches—yellowish brown sandy loam

11 to 19 inches—yellowish brown sandy loam

19 to 28 inches—strong brown sandy clay loam

28 to 38 inches—strong brown sandy clay loam; red lithochromic mottles

38 to 51 inches—yellowish red sandy clay loam; red and brownish yellow lithochromic mottles

51 to 65 inches—reddish yellow sandy clay loam; yellow lithochromic mottles

#### Lily

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 3 inches—black sandy loam

*Subsoil:*

3 to 17 inches—yellowish brown loam

17 to 27 inches—yellowish brown clay loam

27 to 32 inches—strong brown gravelly clay loam

*Bedrock:*

32 inches—hard sandstone

### Minor Components

*Dissimilar components:*

- Caneyville soils, which are moderately deep to bedrock; on hills and mountains
- Dekalb soils, which are moderately deep to bedrock; on hills and mountains
- Murrill soils, which are very deep to bedrock; in colluvial positions and drainageways
- Oriskany soils, which are very deep to bedrock; in colluvial positions and drainageways
- Soils that have a very stony surface; on hills and mountains
- Areas that have sinkholes
- Areas of rock outcrop



*Similar components:*

- Watahala soils, which are very deep to bedrock; on hills and mountains
- Soils that are deep to bedrock; on hills and mountains
- Soils that are dominantly sandy with fewer rock fragments in the subsoil than the Lodi, McClung, and Lily soils; on hills and mountains
- Soils that are on slopes of less than 8 percent or more than 15 percent

**Soil Properties and Qualities**

**Lodi**

*Available water capacity:* Moderate (about 7.4 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone interbedded with sandstone

**McClung**

*Available water capacity:* Moderate (about 7.4 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from sandstone interbedded with limestone and dolomitic limestone

**Lily**

*Available water capacity:* Low (about 4.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from sandstone

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 3e

*Virginia soil management group:* Lodi and McClung—M; Lily—U

*Hydric soil:* No

## **35E—Lodi-McClung-Lily complex, 15 to 35 percent slopes**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills and mountains

*Position on the landform:* Interfluves, side slopes, mountaintops, and mountain flanks

### **Map Unit Composition**

*Note:* These Lodi, McClung, and Lily soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Lodi and similar soils: Typically 35 percent, ranging from about 25 to 40 percent

McClung and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Lily and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

### **Typical Profile**

#### **Lodi**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 7 inches—dark grayish brown gravelly fine sandy loam

*Subsoil:*

7 to 19 inches—yellowish brown fine sandy loam

19 to 31 inches—yellowish red clay

31 to 49 inches—variegated strong brown and yellowish red gravelly clay loam with pockets of clay; yellowish brown lithochromic mottles

*Substratum:*

49 to 67 inches—variegated strong brown and yellowish red gravelly loam; light yellowish brown lithochromic mottles

#### **McClung**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 3 inches—light gray sandy loam

*Subsoil:*

3 to 11 inches—yellowish brown sandy loam

11 to 19 inches—yellowish brown sandy loam

19 to 28 inches—strong brown sandy clay loam

28 to 38 inches—strong brown sandy clay loam; red lithochromic mottles

38 to 51 inches—yellowish red sandy clay loam; red and brownish yellow lithochromic mottles

51 to 65 inches—reddish yellow sandy clay loam; yellow lithochromic mottles

#### **Lily**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 3 inches—black sandy loam

*Subsoil:*

3 to 17 inches—yellowish brown loam

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17 to 27 inches—yellowish brown clay loam

27 to 32 inches—strong brown gravelly clay loam

### **Bedrock:**

32 inches—hard sandstone

### **Minor Components**

#### *Dissimilar components:*

- Caneyville soils, which are moderately deep to bedrock; on hills and mountains
- Dekalb soils, which are moderately deep to bedrock; on hills and mountains
- Murrill soils, which are very deep to bedrock; in colluvial positions and drainageways
- Oriskany soils, which are very deep to bedrock; in colluvial positions and drainageways
- Soils that have a very stony surface; on hills and mountains
- Areas that have sinkholes
- Areas of rock outcrop

#### *Similar components:*

- Watahala soils, which are very deep to bedrock; on hills and mountains
- Soils that are deep to bedrock; on hills and mountains
- Soils that are dominantly sandy with fewer rock fragments in the subsoil than the Lodi, McClung, and Lily soils; on hills and mountains
- Soils that are on slopes of less than 15 percent or more than 35 percent

### **Soil Properties and Qualities**

#### **Lodi**

*Available water capacity:* Moderate (about 7.4 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone interbedded with sandstone

#### **McClung**

*Available water capacity:* Moderate (about 7.4 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from sandstone interbedded with limestone and dolomitic limestone

#### **Lily**

*Available water capacity:* Low (about 4.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)  
*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* Low  
*Surface fragments (stone and/or boulder size):* None  
*Rockiness:* None  
*Parent material:* Residuum weathered from sandstone

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland  
*Land capability class:* 6e  
*Virginia soil management group:* Lodi and McClung—M; Lily—U  
*Hydric soil:* No

### **36C—Lostcove very cobbly sandy loam, 3 to 15 percent slopes, extremely stony**

#### **Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)  
*Landform:* Base of slopes of mountains  
*Position on the landform:* Mountain bases and head slopes along drainageways and in coves

#### **Map Unit Composition**

Lostcove and similar soils: Typically 80 percent, ranging from about 75 to 85 percent

#### **Typical Profile**

*Organic layer:*  
    0 to 1 inch—slightly decomposed plant material  
    1 to 2 inches—moderately decomposed plant material  
*Surface layer:*  
    2 to 3 inches—black very cobbly sandy loam  
*Subsurface layer:*  
    3 to 6 inches—grayish brown very cobbly sandy loam  
*Subsoil:*  
    6 to 13 inches—light olive brown gravelly loam  
    13 to 21 inches—yellowish brown very gravelly loam  
    21 to 36 inches—yellowish brown extremely cobbly clay loam  
    36 to 44 inches—strong brown very stony sandy clay loam  
    44 to 65 inches—strong brown extremely stony clay loam

#### **Minor Components**

*Dissimilar components:*

- Marbleyard soils, which are moderately deep to bedrock; on adjacent mountains
- Stumptown soils, which are moderately deep to bedrock; on adjacent mountains
- Sylco soils, which are moderately deep to bedrock; on adjacent mountains
- Soils that have a rubbly surface; in colluvial positions and drainageways
- Soils that are susceptible to flooding; on flood plains

## Soil Survey of Rockbridge County, Virginia

- Soils that are moderately well drained or somewhat poorly drained; in colluvial positions and drainageways

### *Similar components:*

- Sherando soils, which have more sand throughout than the Lostcove soil; in colluvial positions and drainageways
- Soils that are on slopes of less than 3 percent or more than 15 percent

### **Soil Properties and Qualities**

*Available water capacity:* Low (about 5.1 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* About 60 to 79 inches

*Water table kind:* Apparent

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* None

*Parent material:* Colluvium derived from metasedimentary rocks

### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7s

*Virginia soil management group:* FF

*Hydric soil:* No

## **37E—Lostcove very cobbly sandy loam, 15 to 35 percent slopes, very stony**

### **Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Base of slopes of mountains

*Position on the landform:* Mountain bases and head slopes along drainageways and in coves

### **Map Unit Composition**

Lostcove and similar soils: Typically 80 percent, ranging from about 75 to 85 percent

### **Typical Profile**

#### *Organic layer:*

0 to 1 inch—slightly decomposed plant material

1 to 2 inches—moderately decomposed plant material

#### *Surface layer:*

2 to 3 inches—black very cobbly sandy loam

#### *Subsurface layer:*

3 to 6 inches—grayish brown very cobbly sandy loam

#### *Subsoil:*

6 to 13 inches—light olive brown gravelly loam

13 to 21 inches—yellowish brown very gravelly loam  
21 to 36 inches—yellowish brown extremely cobbly clay loam  
36 to 44 inches—strong brown very stony sandy clay loam  
44 to 65 inches—strong brown extremely stony clay loam

#### **Minor Components**

##### *Dissimilar components:*

- Marbleyard soils, which are moderately deep to bedrock; on adjacent mountains
- Stumptown soils, which are moderately deep to bedrock; on adjacent mountains
- Sylco soils, which are moderately deep to bedrock; on adjacent mountains
- Soils that have an extremely stony surface; in colluvial positions and drainageways
- Soils that are susceptible to flooding; on flood plains
- Soils that are moderately well drained or somewhat poorly drained; in colluvial positions and drainageways

##### *Similar components:*

- Sherando soils, which have more sand throughout than the Lostcove soil; in colluvial positions and drainageways
- Soils that are on slopes of less than 15 percent or more than 35 percent

#### **Soil Properties and Qualities**

*Available water capacity:* Low (about 5.1 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* About 60 to 79 inches

*Water table kind:* Apparent

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Colluvium derived from metasedimentary rocks

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7s

*Virginia soil management group:* FF

*Hydric soil:* No

### **37F—Lostcove very cobbly sandy loam, 35 to 55 percent slopes, very stony**

#### **Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Base of slopes of mountains

*Position on the landform:* Mountain bases and head slopes along drainageways and in coves

#### **Map Unit Composition**

Lostcove and similar soils: Typically 80 percent, ranging from about 75 to 85 percent



### Typical Profile

*Organic layer:*

- 0 to 1 inch—slightly decomposed plant material
- 1 to 2 inches—moderately decomposed plant material

*Surface layer:*

- 2 to 3 inches—black very cobbly sandy loam

*Subsurface layer:*

- 3 to 6 inches—grayish brown very cobbly sandy loam

*Subsoil:*

- 6 to 13 inches—light olive brown gravelly loam
- 13 to 21 inches—yellowish brown very gravelly loam
- 21 to 36 inches—yellowish brown extremely cobbly clay loam
- 36 to 44 inches—strong brown very stony sandy clay loam
- 44 to 65 inches—strong brown extremely stony clay loam

### Minor Components

*Dissimilar components:*

- Marbleyard soils, which are moderately deep to bedrock; on adjacent mountains
- Stumptown soils, which are moderately deep to bedrock; on adjacent mountains
- Sylco soils, which are moderately deep to bedrock; on adjacent mountains
- Soils that have an extremely stony surface; in colluvial positions and drainageways
- Soils that are susceptible to flooding; on flood plains
- Soils that are moderately well drained or somewhat poorly drained; in colluvial positions and drainageways

*Similar components:*

- Sherando soils, which have more sand throughout than the Lostcove soil; in colluvial positions and drainageways
- Soils that are on slopes of less than 35 percent or more than 55 percent

### Soil Properties and Qualities

*Available water capacity:* Low (about 5.1 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* About 60 to 79 inches

*Water table kind:* Apparent

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Colluvium derived from metasedimentary rocks

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* 7e

*Virginia soil management group:* FF

*Hydric soil:* No

## **38E—Marbleyard-Rock outcrop complex, 15 to 35 percent slopes, extremely stony**

### **Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains

*Position on the landform:* Mountaintops and mountain flanks

*Note:* This map unit describes the dominant soils formed on the metaquartzite rock in the Antietam Formation.

### **Map Unit Composition**

*Note:* This Marbleyard soil and Rock outcrop occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Marbleyard and similar soils: Typically 70 percent, ranging from about 65 to 75 percent

Rock outcrop: Typically 15 percent, ranging from about 10 to 20 percent

### **Typical Profile**

#### **Marbleyard**

*Organic layer:*

0 to 1 inch—slightly decomposed plant material

*Surface layer:*

1 to 4 inches—dark brown very cobbly sandy loam

*Subsoil:*

4 to 9 inches—yellowish brown very cobbly sandy loam

9 to 23 inches—yellowish brown extremely cobbly sandy loam

*Substratum:*

23 to 36 inches—brownish yellow extremely gravelly sandy loam

*Bedrock:*

36 inches—hard fractured very pale brown and light gray metaquartzite

#### **Rock outcrop**

This part of the map unit consists of rock outcrop of metaquartzite bedrock typically ranging from a few inches to about 50 feet in height. Taller near-vertical cliffs are found in some places.

### **Minor Components**

*Dissimilar components:*

- Lostcove soils, which are very deep to bedrock; in colluvial positions and major drainageways
- Sherando soils, which are very deep to bedrock; in colluvial positions and drainageways
- Soils that have a very rubbly surface; on mountains
- Areas of more extensive rock outcrop

*Similar components:*

- Soils that are shallow to bedrock; on mountains
- Soils that have a very stony or rubbly surface; on mountains
- Soils that are on slopes of less than 15 percent or more than 35 percent

### **Properties and Qualities of the Marbleyard Soil**

*Available water capacity:* Very low (about 2.0 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* 10 to 20 percent rock outcrop

*Parent material:* Residuum weathered from metaquartzite and metasandstone

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* Marbleyard—7s; Rock outcrop—8

*Virginia soil management group:* Marbleyard—FF; Rock outcrop—none assigned

*Hydric soil:* No

### **39F—Marbleyard-Sherando-Rock outcrop complex, 35 to 55 percent slopes, extremely stony**

#### **Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains

*Position on the landform:* Mountain flanks and mountain bases

*Note:* This map unit describes the dominant soils formed on the metaquartzite rock in the Antietam Formation.

#### **Map Unit Composition**

*Note:* These Marbleyard and Sherando soils and Rock outcrop occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Marbleyard and similar soils: Typically 45 percent, ranging from about 40 to 50 percent

Sherando and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Rock outcrop: Typically 20 percent, ranging from about 15 to 25 percent

#### **Typical Profile**

##### **Marbleyard**

*Organic layer:*

0 to 1 inch—slightly decomposed plant material

*Surface layer:*

1 to 4 inches—dark brown very cobbly sandy loam

*Subsoil:*

4 to 9 inches—yellowish brown very cobbly sandy loam

9 to 23 inches—yellowish brown extremely cobbly sandy loam

*Substratum:*

23 to 36 inches—brownish yellow extremely gravelly sandy loam

*Bedrock:*

36 inches—hard fractured very pale brown and light gray metaquartzite

##### **Sherando**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 5 inches—very dark brown gravelly sandy loam

*Subsurface layer:*

5 to 7 inches—yellowish brown gravelly sandy loam

*Subsoil:*

7 to 20 inches—yellowish brown very gravelly sandy loam

20 to 26 inches—yellowish brown very gravelly sandy loam

26 to 43 inches—brownish yellow extremely gravelly sandy loam

*Substratum:*

43 to 62 inches—yellow extremely cobbly loamy sand

**Rock outcrop**

This part of the map unit consists of rock outcrop of metaquartzite bedrock typically ranging from a few inches to about 50 feet in height. Taller near-vertical cliffs are found in some places.

**Minor Components**

*Dissimilar components:*

- Lostcove soils, which are very deep to bedrock; in colluvial positions and major drainageways
- Soils that have a very rubbly surface; on mountains
- Areas of more extensive rock outcrop

*Similar components:*

- Soils that are shallow to bedrock; on mountains
- Soils that have a very stony or rubbly surface; on mountains
- Soils that are on slopes of less than 35 percent or more than 55 percent

**Soil Properties and Qualities**

**Marbleyard**

*Available water capacity:* Very low (about 2.0 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* 15 to 25 percent rock outcrop

*Parent material:* Residuum weathered from metaquartzite and metasandstone

**Sherando**

*Available water capacity:* Low (about 3.3 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* 15 to 25 percent rock outcrop

*Parent material:* Colluvium derived from the Antietam metaquartzite

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* Marbleyard and Sherando—7s; Rock outcrop—8

*Virginia soil management group:* Marbleyard—FF; Sherando—CC; Rock outcrop—  
none assigned

*Hydric soil:* No

## **39G—Marbleyard-Sherando-Rock outcrop complex, 55 to 80 percent slopes, extremely stony**

### Setting

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains (fig. 11)

*Position on the landform:* Mountain flanks and mountain bases

*Note:* This map unit describes the dominant soils formed on the metaquartzite rock in the Antietam Formation.

### Map Unit Composition

*Note:* These Marbleyard and Sherando soils and Rock outcrop occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.



Figure 11.—An example of Marbleyard-Sherando-Rock outcrop complex, 55 to 80 percent slopes, extremely stony. This unit is mapped in the Antietam Formation in woodland with dominant trees of chestnut oak, scarlet oak, Virginia pine, pitch pine and table mountain pine.

Marbleyard and similar soils: Typically 45 percent, ranging from about 40 to 50 percent

Sherando and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Rock outcrop: Typically 20 percent, ranging from about 15 to 25 percent

### Typical Profile

#### Marbleyard

##### *Organic layer:*

0 to 1 inch—slightly decomposed plant material

##### *Surface layer:*

1 to 4 inches—dark brown very cobbly sandy loam

##### *Subsoil:*

4 to 9 inches—yellowish brown very cobbly sandy loam

9 to 23 inches—yellowish brown extremely cobbly sandy loam

##### *Substratum:*

23 to 36 inches—brownish yellow extremely gravelly sandy loam

##### *Bedrock:*

36 inches—hard fractured very pale brown and light gray metaquartzite

#### Sherando

##### *Organic layer:*

0 to 2 inches—moderately decomposed plant material

##### *Surface layer:*

2 to 5 inches—very dark brown gravelly sandy loam

##### *Subsurface layer:*

5 to 7 inches—yellowish brown gravelly sandy loam

##### *Subsoil:*

7 to 20 inches—yellowish brown very gravelly sandy loam

20 to 26 inches—yellowish brown very gravelly sandy loam

26 to 43 inches—brownish yellow extremely gravelly sandy loam

##### *Substratum:*

43 to 62 inches—yellow extremely cobbly loamy sand

#### Rock outcrop

This part of the map unit consists of rock outcrop of metaquartzite bedrock typically ranging from a few inches to about 50 feet in height. Taller near-vertical cliffs are found in some places.

### Minor Components

##### *Dissimilar components:*

- Lostcove soils, which are very deep to bedrock; in colluvial positions and major drainageways
- Soils that have a very rubbly surface; on mountains
- Areas of more extensive rock outcrop

##### *Similar components:*

- Soils that are shallow to bedrock; on mountains
- Soils that have a very stony or rubbly surface; on mountains
- Soils that are on slopes of less than 55 percent or more than 80 percent

### Soil Properties and Qualities

#### Marbleyard

*Available water capacity:* Very low (about 2.0 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet



*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* 15 to 25 percent rock outcrop

*Parent material:* Residuum weathered from metaquartzite and metasandstone

### **Sherando**

*Available water capacity:* Low (about 3.3 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* 15 to 25 percent rock outcrop

*Parent material:* Colluvium derived from the Antietam metaquartzite

### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* Marbleyard and Sherando—7s; Rock outcrop—8

*Virginia soil management group:* Marbleyard—FF; Sherando—CC; Rock outcrop—  
none assigned

*Hydric soil:* No

## **40A—Maurertown-Toms complex, 0 to 3 percent slopes, rarely flooded**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Depressions or backswamps on low level stream terraces (fig. 12)

*Position on the landform:* Treads

### **Map Unit Composition**

*Note:* These Maurertown and Toms soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Maurertown and similar soils: Typically 50 percent, ranging from about 40 to 55 percent

Toms and similar soils: Typically 45 percent, ranging from about 40 to 60 percent

### **Typical Profile**

#### **Maurertown**

*Surface layer:*

0 to 6 inches—dark grayish brown silty clay loam

*Subsoil:*

6 to 13 inches—olive gray silty clay loam; yellowish brown masses of oxidized iron

13 to 27 inches—dark gray silty clay; strong brown masses of oxidized iron and iron-manganese concretions

27 to 43 inches—dark gray silty clay loam; strong brown and olive brown masses of oxidized iron and iron-manganese concretions



**Figure 12.**—An example of Maurertown-Toms complex, 0 to 3 percent slopes, rarely flooded. These soils pond occasionally throughout the year and support hydrophytic vegetation.

43 to 65 inches—gray silty clay; olive brown and strong brown masses of oxidized iron and iron-manganese concretions

**Toms**

*Surface layer:*

0 to 7 inches—brown silt loam

*Subsoil:*

7 to 24 inches—yellowish brown clay; light brownish gray iron depletions

24 to 36 inches—grayish brown clay; yellowish brown masses of oxidized iron and black manganese concretions

36 to 53 inches—light brownish gray silty clay loam; yellowish brown masses of oxidized iron and black manganese concretions

*Substratum:*

53 to 65 inches—yellowish brown silty clay loam; grayish brown iron depletions

**Minor Components**

*Dissimilar components:*

- Botetourt soils, which are moderately well drained; on stream terraces
- Coursey soils, which are moderately well drained; on stream terraces
- Soils that flood more frequently than the Maurertown and Toms soils; on flood plains

*Similar components:*

- Soils that have a gravelly surface layer; on stream terraces
- Soils that have less clay in the subsoil; on stream terraces
- Soils that have a more acidic reaction in the surface layer and/or subsoil; on stream terraces
- Soils that are on slopes of more than 3 percent

### Soil Properties and Qualities

#### **Maurertown**

*Available water capacity:* Moderate (about 8.4 inches)  
*Slowest saturated hydraulic conductivity:* Low (about 0.00 in./hr.)  
*Depth class:* Very deep (more than 60 inches)  
*Depth to root-restrictive feature:* More than 60 inches  
*Drainage class:* Poorly drained  
*Depth to seasonal water saturation:* About 0 to 6 inches  
*Water table kind:* Apparent  
*Flooding hazard:* Rare  
*Ponding hazard:* Occasional  
*Shrink-swell potential:* High  
*Surface fragments (stone and/or boulder size):* None  
*Rockiness:* None  
*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

#### **Toms**

*Available water capacity:* Moderate (about 8.3 inches)  
*Slowest saturated hydraulic conductivity:* Moderately low (about 0.06 in./hr.)  
*Depth class:* Very deep (more than 60 inches)  
*Depth to root-restrictive feature:* More than 60 inches  
*Drainage class:* Somewhat poorly drained  
*Depth to seasonal water saturation:* About 6 to 18 inches  
*Water table kind:* Apparent  
*Flooding hazard:* Rare  
*Ponding hazard:* Occasional  
*Shrink-swell potential:* Moderate  
*Surface fragments (stone and/or boulder size):* None  
*Rockiness:* None  
*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

### Interpretive Groups

*Prime farmland:* Not prime farmland  
*Land capability class:* 4w  
*Virginia soil management group:* NN  
*Hydric soil:* Maurertown—yes; Toms—no

## **41C—McCamy loam, 3 to 15 percent slopes, very stony**

### Setting

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)  
*Landform:* Mountains  
*Position on the landform:* Mountaintops

### Map Unit Composition

McCamy and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

### Typical Profile

*Organic layer:*  
0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 4 inches—very dark grayish brown loam

*Subsoil:*

4 to 7 inches—dark yellowish brown loam

7 to 18 inches—brown gravelly sandy clay loam

18 to 27 inches—strong brown gravelly sandy clay loam

27 to 31 inches—strong brown very cobbly sandy clay loam

*Bedrock:*

31 inches—hard fractured feldspathic metasandstone

**Minor Components**

*Dissimilar components:*

- Lostcove soils, which are very deep to bedrock; in colluvial positions and drainageways
- Soils that have an extremely stony surface; on mountains
- Areas of rock outcrop

*Similar components:*

- Marbleyard soils, which have more sand throughout than the McCamy soil; on mountains
- Stumptown soils, which have a thin layer of clay accumulation in the subsoil; on mountains
- Sylco soils, which have more silt throughout; on mountains
- Soils that are shallow to bedrock; on mountains
- Soils that are on slopes of less than 3 percent or more than 15 percent

**Soil Properties and Qualities**

*Available water capacity:* Low (about 3.2 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from feldspathic metasandstone, metasilstone, and metashale

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 6s

*Virginia soil management group:* FF

*Hydric soil:* No

**42F—McClung-Caneyville-Dekalb complex, 35 to 55 percent slopes, very stony**

**Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills and mountains

*Position on the landform:* Side slopes and mountain flanks

### Map Unit Composition

*Note:* These McClung, Caneyville, and Dekalb soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

McClung and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

Caneyville and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Dekalb and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

### Typical Profile

#### McClung

##### *Organic layer:*

0 to 2 inches—moderately decomposed plant material

##### *Surface layer:*

2 to 3 inches—light gray sandy loam

##### *Subsoil:*

3 to 11 inches—yellowish brown sandy loam

11 to 19 inches—yellowish brown sandy loam

19 to 28 inches—strong brown sandy clay loam

28 to 38 inches—strong brown sandy clay loam; red lithochromic mottles

38 to 51 inches—yellowish red sandy clay loam; red and brownish yellow lithochromic mottles

51 to 65 inches—reddish yellow sandy clay loam; yellow lithochromic mottles

#### Caneyville

##### *Surface layer:*

0 to 3 inches—brown silt loam

##### *Subsoil:*

3 to 6 inches—strong brown silt loam

6 to 12 inches—yellowish red silty clay loam

12 to 25 inches—red clay

##### *Bedrock:*

25 inches—hard limestone

#### Dekalb

##### *Organic layer:*

0 to 1 inch—moderately decomposed plant material

##### *Surface layer:*

1 to 2 inches—very dark gray channery fine sandy loam

##### *Subsurface layer:*

2 to 4 inches—brown channery fine sandy loam

##### *Subsoil:*

4 to 12 inches—yellowish brown channery fine sandy loam

12 to 22 inches—yellowish brown very channery sandy loam

##### *Substratum:*

22 to 32 inches—brownish yellow extremely flaggy loamy sand

##### *Bedrock:*

32 inches—hard fractured light gray sandstone

### Minor Components

##### *Dissimilar components:*

- Oriskany soils, which formed in colluvial materials; in colluvial positions and drainageways
- Areas that have sinkholes
- Areas of rock outcrop



## Soil Survey of Rockbridge County, Virginia

### *Similar components:*

- Lily soils, which are moderately deep to bedrock; on hills and mountains
- Lodi soils, which are very deep to bedrock; on hills and mountains
- Murrill soils, which formed in colluvial materials; in colluvial positions and drainageways
- Watahala soils, which are very deep to bedrock; on hills and mountains
- Soils that have a nonstony surface; on hills and mountains
- Soils that are dominantly sandy with fewer rock fragments in the subsoil than the McClung, Caneyville, and Dekalb soils; on hills and mountains
- Soils that are on slopes of less than 35 percent or more than 55 percent

### **Soil Properties and Qualities**

#### **McClung**

*Available water capacity:* Moderate (about 7.4 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from sandstone interbedded with limestone and dolomitic limestone

#### **Caneyville**

*Available water capacity:* Low (about 3.5 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, cherty limestone, and dolomitic limestone

#### **Dekalb**

*Available water capacity:* Very low (about 2.9 inches)

*Slowest saturated hydraulic conductivity:* High (about 5.95 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover



*Rockiness:* None

*Parent material:* Residuum weathered from light yellowish brown to gray acid sandstone

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7e

*Virginia soil management group:* McClung—M; Caneyville—Y; Dekalb—FF

*Hydric soil:* No

### **43C—Needmore-Opequon complex, 3 to 15 percent slopes**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills and mountains

*Position on the landform:* Interfluves, nose slopes, and mountaintops

#### **Map Unit Composition**

*Note:* These Needmore and Opequon soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Needmore and similar soils: Typically 60 percent, ranging from about 50 to 70 percent

Opequon and similar soils: Typically 30 percent, ranging from about 20 to 40 percent

#### **Typical Profile**

##### **Needmore**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 5 inches—brown silt loam

*Subsoil:*

5 to 14 inches—yellowish brown silty clay; strong brown lithochromic mottles

14 to 21 inches—strong brown clay; yellowish brown lithochromic mottles

21 to 33 inches—variegated strong brown and yellowish brown channery silty clay loam

*Bedrock:*

33 inches—weathered calcareous shale interbedded with limestone

##### **Opequon**

*Surface layer:*

0 to 2 inches—dark brown silty clay loam

*Subsoil:*

2 to 10 inches—variegated dark yellowish brown and yellowish brown clay

10 to 14 inches—dark yellowish brown clay

*Bedrock:*

14 inches—hard limestone

#### **Minor Components**

*Dissimilar components:*

- Groseclose soils, which are very deep to bedrock; on hills
- Murrill soils, which are very deep to bedrock; in colluvial positions and drainageways
- Oriskany soils, which are very deep to bedrock; in colluvial positions and drainageways
- Slabtown soils, which are moderately well drained; in local colluvial positions

## Soil Survey of Rockbridge County, Virginia

- Tumbling soils, which are very deep to bedrock; in old colluvial positions
- Vanella soils, which are very deep to bedrock; in old colluvial positions
- Soils that have channers, cobbles, and stones on the surface; on hills and mountains
- Areas of rock outcrop
- Areas that have sinkholes

### *Similar components:*

- Carbo soils, which are moderately deep to bedrock; on hills and mountains
- Soils that are deep to bedrock; on hills and mountains
- Soils that are on slopes of less than 3 percent or more than 15 percent

## **Soil Properties and Qualities**

### **Needmore**

*Available water capacity:* Low (about 4.4 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, calcareous shale, and siltstone

### **Opequon**

*Available water capacity:* Very low (about 1.6 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Shallow (10 to 20 inches)

*Depth to root-restrictive feature:* 12 to 20 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* High

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone; in some places calcareous shale and siltstone

## **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* Needmore—3e; Opequon—4s

*Virginia soil management group:* Needmore—Y; Opequon—JJ

*Hydric soil:* No

## **43E—Needmore-Opequon complex, 15 to 35 percent slopes**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills and mountains

*Position on the landform:* Interfluves, nose slopes, side slopes, mountaintops, and mountain flanks

### Map Unit Composition

*Note:* These Needmore and Opequon soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Needmore and similar soils: Typically 55 percent, ranging from about 45 to 65 percent  
Opequon and similar soils: Typically 35 percent, ranging from about 25 to 45 percent

### Typical Profile

#### Needmore

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 5 inches—brown silt loam

*Subsoil:*

5 to 14 inches—yellowish brown silty clay; strong brown lithochromic mottles

14 to 21 inches—strong brown clay; yellowish brown lithochromic mottles

21 to 33 inches—variegated strong brown and yellowish brown channery silty clay loam

*Bedrock:*

33 inches—weathered calcareous shale interbedded with limestone

#### Opequon

*Surface layer:*

0 to 2 inches—dark brown silty clay loam

*Subsoil:*

2 to 10 inches—variegated dark yellowish brown and yellowish brown clay

10 to 14 inches—dark yellowish brown clay

*Bedrock:*

14 inches—hard limestone

### Minor Components

*Dissimilar components:*

- Groseclose soils, which are very deep to bedrock; on hills
- Murrill soils, which are very deep to bedrock; in colluvial positions and drainageways
- Oriskany soils, which are very deep to bedrock; in colluvial positions and drainageways
- Slabtown soils, which are moderately well drained; in local colluvial positions
- Tumbling soils, which are very deep to bedrock; in old colluvial positions
- Vanella soils, which are very deep to bedrock; in old colluvial positions
- Soils that have channers, cobbles, and stones on the surface; on hills and mountains
- Areas of rock outcrop
- Areas that have sinkholes

*Similar components:*

- Carbo soils, which are moderately deep to bedrock; on hills and mountains
- Soils that are deep to bedrock; on hills and mountains
- Soils that are on slopes of less than 15 percent or more than 35 percent

### Soil Properties and Qualities

#### Needmore

*Available water capacity:* Low (about 4.4 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* Moderate  
*Surface fragments (stone and/or boulder size):* None  
*Rockiness:* None  
*Parent material:* Residuum weathered from limestone, calcareous shale, and siltstone

**Opequon**

*Available water capacity:* Very low (about 1.6 inches)  
*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)  
*Depth class:* Shallow (10 to 20 inches)  
*Depth to root-restrictive feature:* 12 to 20 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* High  
*Surface fragments (stone and/or boulder size):* None  
*Rockiness:* None  
*Parent material:* Residuum weathered from limestone; in some places calcareous shale and siltstone

**Interpretive Groups**

*Prime farmland:* Not prime farmland  
*Land capability class:* 6e  
*Virginia soil management group:* Needmore—Y; Opequon—JJ  
*Hydric soil:* No

**43F—Needmore-Opequon complex, 35 to 70 percent slopes**

**Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)  
*Landform:* Hills and mountains (fig. 13)  
*Position on the landform:* Side slopes and mountain flanks

**Map Unit Composition**

*Note:* These Needmore and Opequon soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Needmore and similar soils: Typically 50 percent, ranging from about 40 to 60 percent  
Opequon and similar soils: Typically 40 percent, ranging from about 30 to 50 percent

**Typical Profile**

**Needmore**

*Organic layer:*  
0 to 2 inches—moderately decomposed plant material  
*Surface layer:*  
2 to 5 inches—brown silt loam  
*Subsoil:*  
5 to 14 inches—yellowish brown silty clay; strong brown lithochromic mottles



Figure 13.—An example of Needmore-Opequon complex, 35 to 70 percent slopes. Pastureland and woodland are the dominant uses of this unit.

14 to 21 inches—strong brown clay; yellowish brown lithochromic mottles

21 to 33 inches—variegated strong brown and yellowish brown channery silty clay loam

**Bedrock:**

33 inches—weathered calcareous shale interbedded with limestone

**Opequon**

**Surface layer:**

0 to 2 inches—dark brown silty clay loam

**Subsoil:**

2 to 10 inches—variegated dark yellowish brown and yellowish brown clay

10 to 14 inches—dark yellowish brown clay

**Bedrock:**

14 inches—hard limestone

**Minor Components**

**Dissimilar components:**

- Groseclose soils, which are very deep to bedrock; on hills
- Murrill soils, which are very deep to bedrock; in colluvial positions and drainageways
- Oriskany soils, which are very deep to bedrock; in colluvial positions and drainageways
- Slabtown soils, which are moderately well drained; in local colluvial positions
- Tumbling soils, which are very deep to bedrock; in old colluvial positions
- Vanella soils, which are very deep to bedrock; in old colluvial positions
- Soils that have channers, cobbles, and stones on the surface; on hills and mountains
- Areas of rock outcrop
- Areas that have sinkholes

*Similar components:*

- Carbo soils, which are moderately deep to bedrock; on hills and mountains
- Soils that are deep to bedrock; on hills and mountains
- Soils that are on slopes of less than 35 percent or more than 70 percent

**Soil Properties and Qualities**

**Needmore**

*Available water capacity:* Low (about 4.4 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, calcareous shale, and siltstone

**Opequon**

*Available water capacity:* Very low (about 1.6 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Shallow (10 to 20 inches)

*Depth to root-restrictive feature:* 12 to 20 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* High

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone; in some places calcareous shale and siltstone

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7e

*Virginia soil management group:* Needmore—Y; Opequon—JJ

*Hydric soil:* No

**44E—Needmore-Urban land complex, 15 to 35 percent slopes**

**Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Urban or built-up areas on hills within the vicinity of the city of Lexington

*Position on the landform:* Interfluves, nose slopes, and side slopes

**Map Unit Composition**

*Note:* This Needmore soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.



Needmore and similar soils: Typically 70 percent, ranging from about 65 to 75 percent  
Urban land: Typically 25 percent, ranging from about 20 to 30 percent

### Typical Profile

#### Needmore

##### *Organic layer:*

0 to 2 inches—moderately decomposed plant material

##### *Surface layer:*

2 to 5 inches—brown silt loam

##### *Subsoil:*

5 to 14 inches—yellowish brown silty clay; strong brown lithochromic mottles

14 to 21 inches—strong brown clay; yellowish brown lithochromic mottles

21 to 33 inches—variegated strong brown and yellowish brown channery silty clay loam

##### *Bedrock:*

33 inches—weathered calcareous shale interbedded with limestone

#### Urban land

This part of the map unit consists of areas covered by impervious surfaces such as asphalt roadways and parking lots, concrete structures, and buildings. A typical profile is not given because the original soils have been disturbed.

### Minor Components

#### *Dissimilar components:*

- Groseclose soils, which are very deep to bedrock; on undisturbed hills
- Slabtown soils, which are moderately well drained; in undisturbed local colluvial positions
- Areas of rock outcrop
- Areas that have sinkholes
- Soils that have been disturbed by grading, cutting, and filling

#### *Similar components:*

- Carbo soils, which are very fine; on undisturbed hills
- Opequon soils, which are shallow to bedrock; on undisturbed hills
- Soils that are deep to bedrock; on undisturbed hills
- Soils that are on slopes of less than 15 percent or more than 35 percent

### Properties and Qualities of the Needmore Soil

*Available water capacity:* Low (about 4.4 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, calcareous shale, and siltstone

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* Needmore—6e; Urban land—8

*Virginia soil management group:* Needmore—Y; Urban land—none assigned

*Hydric soil:* Needmore—no; Urban land—unranked

## 45B—Nicelytown loam, 3 to 8 percent slopes

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Intermediate to high level stream terraces

*Position on the landform:* Treads and risers

### Map Unit Composition

Nicelytown and similar soils: Typically 80 percent, ranging from about 70 to 90 percent

### Typical Profile

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 2 inches—very dark brown loam

*Subsurface layer:*

2 to 4 inches—light olive brown loam

*Subsoil:*

4 to 14 inches—light yellowish brown loam

14 to 22 inches—light olive brown loam

22 to 33 inches—light olive brown clay loam; light brownish gray iron depletions;  
yellowish brown masses of oxidized iron

33 to 49 inches—light olive brown clay loam; gray iron depletions; strong brown  
masses of oxidized iron

49 to 65 inches—light brownish gray clay loam; gray iron depletions; strong brown  
masses of oxidized iron

### Minor Components

*Dissimilar components:*

- Cottonbend soils, which are well drained; on old stream terraces
- Purdy soils, which are poorly drained; on old stream terraces
- Shottower soils, which are well drained; on old stream terraces
- Tygart soils, which are somewhat poorly drained; on old stream terraces
- Soils that are moderately deep to shale bedrock; on old stream terraces
- Soils that have a cobbly surface layer; on old stream terraces
- Areas that have sinkholes

*Similar components:*

- Frederick soils, which formed from limestone residual materials; on hills
- Groseclose soils, which formed from limestone and shale residual materials; on hills
- Soils that have surface layers of silt loam or fine sandy loam; on old stream terraces
- Soils that have a gravelly surface layer; on old stream terraces
- Soils that have a thin capping of alluvial material over residual clayey material; on old stream terraces
- Soils that are on slopes of less than 3 percent or more than 8 percent

### Soil Properties and Qualities

*Available water capacity:* High (about 9.1 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Moderately well drained

*Depth to seasonal water saturation:* About 18 to 30 inches

*Water table kind:* Apparent

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

Surface fragments (stone and/or boulder size): None

*Rockiness:* None

*Parent material:* Old alluvium derived from sandstone, siltstone, shale, limestone, and dolomitic limestone

#### **Interpretive Groups**

*Prime farmland:* All areas are prime farmland

*Land capability class:* 2e

*Virginia soil management group:* G

*Hydric soil:* No

### **46B—Nicelytown-Urban land complex, 3 to 8 percent slopes**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Urban or built-up areas on intermediate old stream terraces in the vicinity of the town of Glasgow

*Position on the landform:* Treads and risers

#### **Map Unit Composition**

*Note:* This Nicelytown soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Nicelytown and similar soils: Typically 50 percent, ranging from about 45 to 55 percent

Urban land: Typically 45 percent, ranging from about 40 to 50 percent

#### **Typical Profile**

##### **Nicelytown**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 2 inches—very dark brown loam

*Subsurface layer:*

2 to 4 inches—light olive brown loam

*Subsoil:*

4 to 14 inches—light yellowish brown loam

14 to 22 inches—light olive brown loam

22 to 33 inches—light olive brown clay loam; light brownish gray iron depletions; yellowish brown masses of oxidized iron

33 to 49 inches—light olive brown clay loam; gray iron depletions; strong brown masses of oxidized iron

49 to 65 inches—light brownish gray clay loam; gray iron depletions; strong brown masses of oxidized iron

##### **Urban land**

This part of the map unit consists of areas covered by impervious surfaces such as asphalt roadways and parking lots, concrete structures, and buildings. A typical profile is not given because the original soils have been disturbed.

### Minor Components

*Dissimilar components:*

- Cottonbend soils, which are well drained; on undisturbed old stream terraces
- Lostcove soils, which have more rock fragments throughout than the Nicelytown soil; in undisturbed colluvial positions and drainageways
- Purdy soils, which are poorly drained; on undisturbed old stream terraces
- Tygart soils, which are somewhat poorly drained; on undisturbed old stream terraces
- Soils that are moderately deep to shale bedrock; on undisturbed old stream terraces
- Soils that have been disturbed by grading, cutting, and filling

*Similar components:*

- Soils that have a gravelly or cobbly surface layer; on undisturbed old stream terraces
- Soils that have more clay in the subsoil; on undisturbed old stream terraces
- Soils that are deep to bedrock; on undisturbed old stream terraces
- Soils that are on slopes of less than 3 percent or more than 8 percent

### Properties and Qualities of the Nicelytown Soil

*Available water capacity:* High (about 9.1 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Moderately well drained

*Depth to seasonal water saturation:* About 18 to 30 inches

*Water table kind:* Apparent

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

Surface fragments (stone and/or boulder size): None

*Rockiness:* None

*Parent material:* Old alluvium derived from sandstone, siltstone, shale, limestone, and dolomitic limestone

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* Nicelytown—2e; Urban land—8

*Virginia soil management group:* Nicelytown—G; Urban land—none assigned

*Hydric soil:* Nicelytown—no; Urban land—unranked

## 47C—Oriskany-Laidig complex, 3 to 15 percent slopes, extremely stony

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Base of slopes of mountains

*Position on the landform:* Mountain bases, base slopes, and head slopes along drainageways and in coves

### Map Unit Composition

*Note:* These Oriskany and Laidig soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Oriskany and similar soils: Typically 65 percent, ranging from about 55 to 75 percent

Laidig and similar soils: Typically 25 percent, ranging from about 15 to 35 percent

### Typical Profile

#### Oriskany

*Organic layer:*

0 to 2 inches—slightly decomposed plant material

*Surface layer:*

2 to 6 inches—very dark grayish brown cobbly sandy loam

*Subsurface layer:*

6 to 11 inches—brown cobbly sandy loam

*Subsoil:*

11 to 29 inches—brown very cobbly loam

29 to 40 inches—brown very cobbly loam

40 to 65 inches—brown extremely cobbly loam

#### Laidig

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 4 inches—dark grayish brown channery loam

*Subsurface layer:*

4 to 9 inches—yellowish brown channery loam

*Subsoil:*

9 to 14 inches—yellowish brown channery loam

14 to 32 inches—yellowish brown channery loam

32 to 40 inches—yellowish brown channery loam; light brownish gray and pale brown iron depletions; strong brown masses of oxidized iron

40 to 67 inches—strong brown channery loam; pale brown iron depletions; yellowish brown and red masses of oxidized iron

### Minor Components

*Dissimilar components:*

- Berks soils, which are moderately deep to bedrock; on adjacent hills and mountains
- Dekalb soils, which are moderately deep to bedrock; on adjacent mountains
- Derroc soils, which are susceptible to flooding; on flood plains
- Lehew soils, which are moderately deep to bedrock; on adjacent mountains
- Soils that are moderately well drained or somewhat poorly drained; in colluvial positions and drainageways
- Soils that have a rubbly surface; in colluvial positions and drainageways

*Similar components:*

- Escatawba soils, which have a perched water table; in old colluvial positions
- Tumbling soils, which have more red clay throughout than the Oriskany and Laidig soils; in old colluvial positions
- Vanella soils, which have more red clay throughout; in old colluvial positions
- Soils that are on slopes of less than 3 percent or more than 15 percent

### Soil Properties and Qualities

#### Oriskany

*Available water capacity:* Moderate (about 6.5 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* None

*Parent material:* Colluvium derived from sandstone, siltstone, and shale

#### **Laidig**

*Available water capacity:* Low (about 4.9 inches)

*Slowest saturated hydraulic conductivity:* Moderately low (about 0.06 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* 30 to 50 inches to fragipan

*Drainage class:* Well drained

*Depth to seasonal water saturation:* About 30 to 48 inches

*Water table kind:* Perched

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* None

*Parent material:* Colluvium derived from sandstone, siltstone, and shale

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7s

*Virginia soil management group:* Oriskany—CC; Laidig—W

*Hydric soil:* No

### **47E—Oriskany-Laidig complex, 15 to 35 percent slopes, extremely stony**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Base of slopes of mountains

*Position on the landform:* Mountain bases, base slopes, and head slopes along drainageways and in coves

#### **Map Unit Composition**

*Note:* These Oriskany and Laidig soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Oriskany and similar soils: Typically 60 percent, ranging from about 50 to 70 percent

Laidig and similar soils: Typically 30 percent, ranging from about 20 to 40 percent

#### **Typical Profile**

##### **Oriskany**

*Organic layer:*

0 to 2 inches—slightly decomposed plant material

*Surface layer:*

2 to 6 inches—very dark grayish brown cobbly sandy loam

*Subsurface layer:*

6 to 11 inches—brown cobbly sandy loam

*Subsoil:*

11 to 29 inches—brown very cobbly loam

29 to 40 inches—brown very cobbly loam

40 to 65 inches—brown extremely cobbly loam



**Laidig**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 4 inches—dark grayish brown channery loam

*Subsurface layer:*

4 to 9 inches—yellowish brown channery loam

*Subsoil:*

9 to 14 inches—yellowish brown channery loam

14 to 32 inches—yellowish brown channery loam

32 to 40 inches—yellowish brown channery loam; light brownish gray and pale brown iron depletions; strong brown masses of oxidized iron

40 to 67 inches—strong brown channery loam; pale brown iron depletions; yellowish brown and red masses of oxidized iron

**Minor Components**

*Dissimilar components:*

- Berks soils, which are moderately deep to bedrock; on adjacent hills and mountains
- Dekalb soils, which are moderately deep to bedrock; on adjacent mountains
- Derroc soils, which are susceptible to flooding; on flood plains
- Lehew soils, which are moderately deep to bedrock; on adjacent mountains
- Soils that are moderately well drained or somewhat poorly drained; in colluvial positions and drainageways
- Soils that have a rubbly surface; in colluvial positions and drainageways

*Similar components:*

- Escatawba soils, which have a perched water table; in old colluvial positions
- Tumbling soils, which have more red clay throughout than the Oriskany and Laidig soils; in old colluvial positions
- Vanella soils, which have more red clay throughout; in old colluvial positions
- Soils that are on slopes of less than 15 percent or more than 35 percent

**Soil Properties and Qualities**

**Oriskany**

*Available water capacity:* Moderate (about 6.5 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* None

*Parent material:* Colluvium derived from sandstone, siltstone, and shale

**Laidig**

*Available water capacity:* Low (about 4.9 inches)

*Slowest saturated hydraulic conductivity:* Moderately low (about 0.06 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* 30 to 50 inches to fragipan

*Drainage class:* Well drained

*Depth to seasonal water saturation:* About 30 to 48 inches

*Water table kind:* Perched

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* None

*Parent material:* Colluvium derived from sandstone, siltstone, and shale

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7s

*Virginia soil management group:* Oriksany—CC; Laidig—W

*Hydric soil:* No

### **48F—Oriskany cobbly sandy loam, 35 to 55 percent slopes, extremely stony**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Base of slopes of mountains

*Position on the landform:* Mountain bases, base slopes, and head slopes along drainageways and in coves

#### **Map Unit Composition**

Oriskany and similar soils: Typically 80 percent, ranging from about 70 to 90 percent

#### **Typical Profile**

*Organic layer:*

0 to 2 inches—slightly decomposed plant material

*Surface layer:*

2 to 6 inches—very dark grayish brown cobbly sandy loam

*Subsurface layer:*

6 to 11 inches—brown cobbly sandy loam

*Subsoil:*

11 to 29 inches—brown very cobbly loam

29 to 40 inches—brown very cobbly loam

40 to 65 inches—brown extremely cobbly loam

#### **Minor Components**

*Dissimilar components:*

- Berks soils, which are moderately deep to bedrock; on adjacent hills and mountains
- Dekalb soils, which are moderately deep to bedrock; on adjacent mountains
- Lehigh soils, which are moderately deep to bedrock; on adjacent mountains
- Soils that have a rubbly surface; in colluvial positions and drainageways
- Soils that are moderately well drained; in colluvial positions and drainageways

*Similar components:*

- Soils that are on slopes of less than 35 percent or more than 55 percent

#### **Soil Properties and Qualities**

*Available water capacity:* Moderate (about 6.5 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Very deep (more than 60 inches)  
*Depth to root-restrictive feature:* More than 60 inches  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* Low  
*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover  
*Rockiness:* None  
*Parent material:* Colluvium derived from sandstone, siltstone, and shale

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland  
*Land capability class:* 7s  
*Virginia soil management group:* CC  
*Hydric soil:* No

### **49C—Oriskany-Murrill complex, 3 to 15 percent slopes, extremely stony**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)  
*Landform:* Base of slopes of mountains (fig. 14)  
*Position on the landform:* Mountain bases, base slopes, and head slopes along drainageways and in coves



**Figure 14.—An example of Oriskany-Murrill complex, 3 to 15 percent slopes, extremely stony. Most areas of this unit are in woodland.**

### Map Unit Composition

*Note:* These Oriskany and Murrill soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Oriskany and similar soils: Typically 55 percent, ranging from about 45 to 65 percent

Murrill and similar soils: Typically 35 percent, ranging from about 25 to 40 percent

### Typical Profile

#### Oriskany

##### *Organic layer:*

0 to 2 inches—slightly decomposed plant material

##### *Surface layer:*

2 to 6 inches—very dark grayish brown cobbly sandy loam

##### *Subsurface layer:*

6 to 11 inches—brown cobbly sandy loam

##### *Subsoil:*

11 to 29 inches—brown very cobbly loam

29 to 40 inches—brown very cobbly loam

40 to 65 inches—brown extremely cobbly loam

#### Murrill

##### *Surface layer:*

0 to 4 inches—brown cobbly loam

##### *Subsoil:*

4 to 10 inches—yellowish brown channery silt loam

10 to 15 inches—strong brown channery silt loam

15 to 23 inches—strong brown channery silty clay loam

23 to 31 inches—yellowish red channery silty clay loam

31 to 40 inches—yellowish red silty clay loam; brownish yellow lithochromic mottles; black manganese masses

40 to 65 inches—yellowish red silty clay; black manganese masses

### Minor Components

#### *Dissimilar components:*

- Carbo soils, which are moderately deep to bedrock; on adjacent hills and mountains
- Derroc soils, which are susceptible to flooding; on flood plains
- Litz soils, which are moderately deep to bedrock; on adjacent mountains
- Needmore soils, which are moderately deep to bedrock; on adjacent hills and mountains
- Opequon soils, which are shallow to bedrock; on adjacent hills and mountains
- Soils that are moderately well drained or somewhat poorly drained; in colluvial positions and drainageways
- Soils that have a very stony or rubbly surface; in colluvial positions and drainageways
- Areas that have sinkholes

#### *Similar components:*

- Groseclose soils, which have more clay than the Oriskany and Murrill soils; on adjacent hills
- Lodi soils, which have more clay; on adjacent hills
- Tumbling soils, which have more red clay throughout; in old colluvial positions
- Vanella soils, which have more red clay throughout; in old colluvial positions
- Soils that are on slopes of less than 3 percent or more than 15 percent



### Soil Properties and Qualities

#### Oriskany

*Available water capacity:* Moderate (about 6.5 inches)  
*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)  
*Depth class:* Very deep (more than 60 inches)  
*Depth to root-restrictive feature:* More than 60 inches  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* Low  
*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover  
*Rockiness:* None  
*Parent material:* Colluvium derived from sandstone, siltstone, and shale

#### Murrill

*Available water capacity:* Moderate (about 7.7 inches)  
*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)  
*Depth class:* Very deep (more than 60 inches)  
*Depth to root-restrictive feature:* More than 60 inches  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* Moderate  
*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover  
*Rockiness:* None  
*Parent material:* Partly in colluvium derived mainly from sandstone, siltstone, and shale and partly in the underlying residuum weathered from limestone, dolomitic limestone, and calcareous shale

### Interpretive Groups

*Prime farmland:* Not prime farmland  
*Land capability class:* 7s  
*Virginia soil management group:* Oriskany—CC; Murrill—L  
*Hydric soil:* No

## 49E—Oriskany-Murrill complex, 15 to 35 percent slopes, extremely stony

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)  
*Landform:* Base of slopes of mountains  
*Position on the landform:* Mountain bases, base slopes, and head slopes along drainageways and in coves

### Map Unit Composition

*Note:* These Oriskany and Murrill soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Oriskany and similar soils: Typically 55 percent, ranging from about 45 to 65 percent  
Murrill and similar soils: Typically 35 percent, ranging from about 25 to 40 percent

### Typical Profile

#### Oriskany

*Organic layer:*

0 to 2 inches—slightly decomposed plant material

*Surface layer:*

2 to 6 inches—very dark grayish brown cobbly sandy loam

*Subsurface layer:*

6 to 11 inches—brown cobbly sandy loam

*Subsoil:*

11 to 29 inches—brown very cobbly loam

29 to 40 inches—brown very cobbly loam

40 to 65 inches—brown extremely cobbly loam

#### Murrill

*Surface layer:*

0 to 4 inches—brown cobbly loam

*Subsoil:*

4 to 10 inches—yellowish brown channery silt loam

10 to 15 inches—strong brown channery silt loam

15 to 23 inches—strong brown channery silty clay loam

23 to 31 inches—yellowish red channery silty clay loam

31 to 40 inches—yellowish red silty clay loam; brownish yellow lithochromic mottles; black manganese masses

40 to 65 inches—yellowish red silty clay; black manganese masses

### Minor Components

*Dissimilar components:*

- Carbo soils, which are moderately deep to bedrock; on adjacent hills and mountains
- Derroc soils, which are susceptible to flooding; on flood plains
- Litz soils, which are moderately deep to bedrock; on adjacent mountains
- Needmore soils, which are moderately deep to bedrock; on adjacent hills and mountains
- Opequon soils, which are shallow to bedrock; on adjacent hills and mountains
- Soils that are moderately well drained or somewhat poorly drained; in colluvial positions and drainageways
- Soils that have a very stony or rubbly surface; in colluvial positions and drainageways
- Areas that have sinkholes

*Similar components:*

- Groseclose soils, which have more clay than the Oriskany and Murrill soils; on adjacent hills
- Lodi soils, which have more clay; on adjacent hills
- Tumbling soils, which have more red clay throughout; in old colluvial positions
- Vanella soils, which have more red clay throughout; in old colluvial positions
- Soils that are on slopes of less than 15 percent or more than 35 percent

### Soil Properties and Qualities

#### Oriskany

*Available water capacity:* Moderate (about 6.5 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet



*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* None

*Parent material:* Colluvium derived from sandstone, siltstone, and shale

#### **Murrill**

*Available water capacity:* Moderate (about 7.7 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* None

*Parent material:* Partly in colluvium derived mainly from sandstone, siltstone, and shale and partly in the underlying residuum weathered from limestone, dolomitic limestone, and calcareous shale

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7s

*Virginia soil management group:* Oriskany—CC; Murrill—L

*Hydric soil:* No

### **49F—Oriskany-Murrill complex, 35 to 55 percent slopes, extremely stony**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Base of slopes of mountains

*Position on the landform:* Mountain bases, base slopes, and head slopes along drainageways and in coves

#### **Map Unit Composition**

*Note:* These Oriskany and Murrill soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Oriskany and similar soils: Typically 65 percent, ranging from about 55 to 80 percent

Murrill and similar soils: Typically 25 percent, ranging from about 10 to 40 percent

#### **Typical Profile**

##### **Oriskany**

*Organic layer:*

0 to 2 inches—slightly decomposed plant material

*Surface layer:*

2 to 6 inches—very dark grayish brown cobbly sandy loam

*Subsurface layer:*

6 to 11 inches—brown cobbly sandy loam

*Subsoil:*

11 to 29 inches—brown very cobbly loam

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29 to 40 inches—brown very cobbly loam  
40 to 65 inches—brown extremely cobbly loam

### **Murrill**

#### *Surface layer:*

0 to 4 inches—brown cobbly loam

#### *Subsoil:*

4 to 10 inches—yellowish brown channery silt loam  
10 to 15 inches—strong brown channery silt loam  
15 to 23 inches—strong brown channery silty clay loam  
23 to 31 inches—yellowish red channery silty clay loam  
31 to 40 inches—yellowish red silty clay loam; brownish yellow lithochromic mottles;  
black manganese masses  
40 to 65 inches—yellowish red silty clay; black manganese masses

### **Minor Components**

#### *Dissimilar components:*

- Carbo soils, which are moderately deep to bedrock; on adjacent hills and mountains
- Derroc soils, which are susceptible to flooding; on flood plains
- Litz soils, which are moderately deep to bedrock; on adjacent mountains
- Needmore soils, which are moderately deep to bedrock; on adjacent hills and mountains
- Opequon soils, which are shallow to bedrock; on adjacent hills and mountains
- Soils that are moderately well drained; in colluvial positions and drainageways
- Soils that have a very stony or rubbly surface; in colluvial positions and drainageways
- Areas that have sinkholes

#### *Similar components:*

- Groseclose soils, which have more clay than the Oriskany and Murrill soils; on adjacent hills
- Lodi soils, which have more clay; on adjacent hills
- Tumbling soils, which have more red clay throughout; in old colluvial positions
- Vanella soils, which have more red clay throughout; in old colluvial positions
- Soils that are on slopes of less than 35 percent or more than 55 percent

### **Soil Properties and Qualities**

#### **Oriskany**

*Available water capacity:* Moderate (about 6.5 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* None

*Parent material:* Colluvium derived from sandstone, siltstone, and shale

#### **Murrill**

*Available water capacity:* Moderate (about 7.7 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* None

*Parent material:* Partly in colluvium derived mainly from sandstone, siltstone, and shale and partly in the underlying residuum weathered from limestone, dolomitic limestone, and calcareous shale

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7s

*Virginia soil management group:* Oriskany—CC; Murrill—L

*Hydric soil:* No

### **50E—Peaks-Edneytown complex, 15 to 35 percent slopes, very rocky**

#### **Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains

*Position on the landform:* Mountaintops and mountain flanks

#### **Map Unit Composition**

*Note:* These Peaks and Edneytown soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Peaks and similar soils: Typically 55 percent, ranging from about 50 to 60 percent

Edneytown and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

#### **Typical Profile**

##### **Peaks**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 6 inches—dark brown gravelly sandy loam

*Subsoil:*

6 to 14 inches—brown gravelly sandy loam

14 to 23 inches—brown very gravelly sandy loam

*Bedrock:*

23 to 29 inches—soft weathered charnockite

29 inches—moderately hard charnockite

##### **Edneytown**

*Organic layer:*

0 to 1 inch—slightly decomposed plant material

*Surface layer:*

1 to 4 inches—very dark grayish brown loam

*Subsurface layer:*

4 to 8 inches—brown loam

*Subsoil:*

8 to 23 inches—yellowish brown sandy clay loam

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23 to 36 inches—yellowish brown sandy clay loam

*Substratum:*

36 to 64 inches—strong brown sandy loam

*Bedrock:*

64 inches—soft weathered charnockite

### Minor Components

*Dissimilar components:*

- Saunook soils, which have a thick dark surface layer; in colluvial positions and drainageways
- Thunder soils, which have more rock fragments throughout than the Peaks and Edneytown soils; in colluvial positions and drainageways
- Soils that have a nonstony or extremely stony surface; on mountains
- Areas of more extensive rock outcrop

*Similar components:*

- Soils that are shallow to bedrock; on mountains
- Soils that have more or less clay in the subsoil; on mountains Soils that are on slopes of less than 15 percent or more than 35 percent

### Soil Properties and Qualities

#### Peaks

*Available water capacity:* Very low (about 1.1 inches)

*Slowest saturated hydraulic conductivity:* High (about 5.95 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Somewhat excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* 2 to 10 percent granitic rock outcrop

*Parent material:* Residuum weathered from granite, granulite, and charnockite

#### Edneytown

*Available water capacity:* Moderate (about 7.7 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* 61 to 79 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* 2 to 10 percent granitic rock outcrop

*Parent material:* Residuum from granite, granulite, and charnockite

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* 6s

*Virginia soil management group:* Peaks—JJ; Edneytown—L

*Hydric soil:* No



## **50F—Peaks-Edneytown complex, 35 to 70 percent slopes, very rocky**

### **Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains (fig. 15)

*Position on the landform:* Mountain flanks



**Figure 15.—** An example of Peaks-Edneytown complex, 35 to 70 percent slopes, very rocky. In this unit granitic bedrock typically covers about 2 to 10 percent of the surface.

### Map Unit Composition

*Note:* These Peaks and Edneytown soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Peaks and similar soils: Typically 55 percent, ranging from about 50 to 60 percent

Edneytown and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

### Typical Profile

#### Peaks

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 6 inches—dark brown gravelly sandy loam

*Subsoil:*

6 to 14 inches—brown gravelly sandy loam

14 to 23 inches—brown very gravelly sandy loam

*Bedrock:*

23 to 29 inches—soft weathered charnockite

29 inches—moderately hard charnockite

#### Edneytown

*Organic layer:*

0 to 1 inch—slightly decomposed plant material

*Surface layer:*

1 to 4 inches—very dark grayish brown loam

*Subsurface layer:*

4 to 8 inches—brown loam

*Subsoil:*

8 to 23 inches—yellowish brown sandy clay loam

23 to 36 inches—yellowish brown sandy clay loam

*Substratum:*

36 to 64 inches—strong brown sandy loam

*Bedrock:*

64 inches—soft weathered charnockite

### Minor Components

*Dissimilar components:*

- Saunook soils, which have a thick dark surface layer; in colluvial positions and drainageways
- Thunder soils, which have more rock fragments throughout than the Peaks and Edneytown soils; in colluvial positions and drainageways
- Soils that have a nonstony or extremely stony surface; on mountains
- Areas of more extensive rock outcrop

*Similar components:*

- Soils that are shallow to bedrock; on mountains
- Soils that have more or less clay in the subsoil; on mountains Soils that are on slopes of less than 35 percent or more than 70 percent

### Soil Properties and Qualities

#### Peaks

*Available water capacity:* Very low (about 1.1 inches)

*Slowest saturated hydraulic conductivity:* High (about 5.95 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)



*Drainage class:* Somewhat excessively drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* Low  
*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover  
*Rockiness:* 2 to 10 percent rock granitic outcrop  
*Parent material:* Residuum weathered from granite, granulite, and charnockite

#### **Edneytown**

*Available water capacity:* Moderate (about 7.7 inches)  
*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)  
*Depth class:* Very deep (more than 60 inches)  
*Depth to root-restrictive feature:* 61 to 79 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* Low  
*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover  
*Rockiness:* 2 to 10 percent granitic rock outcrop  
*Parent material:* Residuum from granite, granulite, and charnockite

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland  
*Land capability class:* 7e  
*Virginia soil management group:* Peaks—JJ; Edneytown—L  
*Hydric soil:* No

### **51A—Philo fine sandy loam, 0 to 3 percent slopes, occasionally flooded**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)  
*Landform:* Flood plains along creeks and rivers mainly underlain by acid shale and siltstone  
*Position on the landform:* Treads

#### **Map Unit Composition**

Philo and similar soils: Typically 75 percent, ranging from about 70 to 80 percent

#### **Typical Profile**

*Surface layer:*  
0 to 9 inches—dark brown fine sandy loam  
*Subsoil:*  
9 to 23 inches—dark yellowish brown fine sandy loam  
23 to 30 inches—brown loam; grayish brown iron depletions; strong brown masses of oxidized iron and very dark brown manganese masses  
*Substratum:*  
30 to 65 inches—grayish brown cobbly loam; light brownish gray iron depletions; strong brown masses of oxidized iron

### Minor Components

*Dissimilar components:*

- Alonzo soils, which have more clay in the subsoil than the Philo soil; on stream terraces
- Coursey soils, which have more clay in the subsoil; on stream terraces
- Derroc soils, which have more rock fragments throughout; on flood plains
- Holly soils that are poorly drained; on flood plains
- Orrville soils, which are somewhat poorly drained; on flood plains
- Pope soils, which are well drained; on flood plains
- Soils that have a cobbly surface layer; on flood plains

*Similar components:*

- Soils that have a gravelly surface layer; on flood plains
- Soils that are on slopes of more than 3 percent

### Soil Properties and Qualities

*Available water capacity:* Moderate (about 8.5 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Moderately well drained

*Depth to seasonal water saturation:* About 18 to 36 inches

*Water table kind:* Apparent

*Flooding hazard:* Occasional

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Alluvium derived from acid shale, siltstone, and sandstone

### Interpretive Groups

*Prime farmland:* All areas are prime farmland

*Land capability class:* 2w

*Virginia soil management group:* H

*Hydric soil:* No

## 52C—Pignut-Myersville complex, 3 to 15 percent slopes, very stony

### Setting

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains

*Position on the landform:* Mountaintops

### Map Unit Composition

*Note:* These Pignut and Myersville soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Pignut and similar soils: Typically 50 percent, ranging from about 45 to 55 percent

Myersville and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

### Typical Profile

#### **Pignut**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 7 inches—very dark brown silt loam

*Subsoil:*

7 to 9 inches—dark brown silt loam

9 to 18 inches—strong brown silt loam

18 to 31 inches—strong brown silty clay loam

*Substratum:*

31 to 37 inches—strong brown channery silt loam

*Bedrock:*

37 inches—hard greenstone

#### **Myersville**

*Surface layer:*

0 to 3 inches—dark yellowish brown silt loam

*Subsoil:*

3 to 20 inches—yellowish red silty clay loam

20 to 28 inches—strong brown silty clay loam; red, yellowish brown and yellowish red lithochromic mottles

*Substratum:*

28 to 50 inches—variegated red, strong brown, white and black gravelly silt loam

*Bedrock:*

50 inches—soft weathered greenstone that crushes to brownish yellow silt loam; yellowish red lithochromic mottles; black manganese masses

### Minor Components

*Dissimilar components:*

- Saunook soils, which have a thick dark surface layer and less clay in the subsoil than the Pignut and Myersville soils; in colluvial positions and drainageways
- Thunder soils, which have a thick dark surface layer and less clay in the subsoil; in colluvial positions and drainageways
- Wintergreen soils, which are very deep to bedrock; in old colluvial positions
- Soils that have a nonstony surface; on mountains
- Areas of rock outcrop

*Similar components:*

- Edneytown soils, which are very deep to bedrock; on mountains
- Peaks soils, which have more rock fragments throughout; on mountains
- Soils that are shallow to bedrock; on mountains
- Soils that are on slopes of less than 3 percent or more than 15 percent

### Soil Properties and Qualities

#### **Pignut**

*Available water capacity:* Low (about 5.5 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from greenstone

### **Myersville**

*Available water capacity:* Moderate (about 8.1 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Deep (40 to 60 inches)

*Depth to root-restrictive feature:* 40 to 60 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from greenstone

### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 6s

*Virginia soil management group:* Pignut—JJ; Myersville—D

*Hydric soil:* No

## **53E—Pignut silt loam, 15 to 35 percent slopes, very stony**

### **Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains

*Position on the landform:* Mountaintops and mountain flanks

### **Map Unit Composition**

Pignut and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

### **Typical Profile**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 7 inches—very dark brown silt loam

*Subsoil:*

7 to 9 inches—dark brown silt loam

9 to 18 inches—strong brown silt loam

18 to 31 inches—strong brown silty clay loam

*Substratum:*

31 to 37 inches—strong brown channery silt loam

*Bedrock:*

37 inches—hard greenstone

### **Minor Components**

*Dissimilar components:*

- Saunook soils, which have a thick dark surface layer and less clay in the subsoil than the Pignut soil; in colluvial positions and drainageways
- Thunder soils, which have a thick dark surface layer and less clay in the subsoil; in colluvial positions and drainageways

## Soil Survey of Rockbridge County, Virginia

- Wintergreen soils, which are very deep to bedrock; in old colluvial positions
- Soils that have a nonstony surface; on mountains
- Areas of rock outcrop

### *Similar components:*

- Edneytown soils, which are very deep to bedrock; on mountains
- Myersville soils, which are deep to bedrock; on mountains
- Peaks soils, which have more rock fragments throughout; on mountains
- Soils that are shallow to bedrock; on mountains
- Soils that are on slopes of less than 15 percent or more than 35 percent

### **Soil Properties and Qualities**

*Available water capacity:* Low (about 5.5 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from greenstone

### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7s

*Virginia soil management group:* JJ

*Hydric soil:* No

## **53F—Pignut silt loam, 35 to 70 percent slopes, very stony**

### **Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains

*Position on the landform:* Mountain flanks

### **Map Unit Composition**

Pignut and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

### **Typical Profile**

#### *Organic layer:*

0 to 2 inches—moderately decomposed plant material

#### *Surface layer:*

2 to 7 inches—very dark brown silt loam

#### *Subsoil:*

7 to 9 inches—dark brown silt loam

9 to 18 inches—strong brown silt loam

18 to 31 inches—strong brown silty clay loam

#### *Substratum:*

31 to 37 inches—strong brown channery silt loam

#### *Bedrock:*

37 inches—hard greenstone

### Minor Components

*Dissimilar components:*

- Saunook soils, which have a thick dark surface layer and less clay in the subsoil than the Pignut soil; in colluvial positions and drainageways
- Thunder soils, which have a thick dark surface layer and less clay in the subsoil; in colluvial positions and drainageways
- Soils that have a nonstony surface; on mountains
- Areas of rock outcrop

*Similar components:*

- Edneytown soils, which are very deep to bedrock; on mountains
- Myersville soils, which are deep to bedrock; on mountains
- Peaks soils, which have more rock fragments throughout; on mountains
- Soils that are shallow to bedrock; on mountains
- Soils that are on slopes of less than 35 percent or more than 70 percent

### Soil Properties and Qualities

*Available water capacity:* Low (about 5.5 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from greenstone

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* 7e

*Virginia soil management group:* JJ

*Hydric soil:* No

## 54—Pits and dumps

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills and mountains

*Position on the landform:* Variable

### Map Unit Composition

Pits: Typically 50 percent, ranging from about 45 to 55 percent

Dumps: Typically 45 percent, ranging from about 40 to 50 percent

### General Description

This map unit consists of limestone gravel quarries or areas where earthen materials have been mined. Pits consist of open excavations from which soil and/or underlying material have been removed, exposing layers of bedrock or earthen material. Dumps consist of a smoothed or uneven accumulation of displaced earthen materials or limestone gravel removed during mining or excavation.



### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* 8

*Virginia soil management group:* None assigned

*Hydric soil:* Unranked

## 55A—Pope fine sandy loam, 0 to 3 percent slopes, occasionally flooded

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Flood plains along creeks and rivers mainly underlain by acid shale and siltstone

*Position on the landform:* Treads

### Map Unit Composition

Pope and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

### Typical Profile

*Surface layer:*

0 to 8 inches—dark yellowish brown fine sandy loam

*Subsoil:*

8 to 15 inches—brown gravelly sandy loam

15 to 27 inches—strong brown sandy loam

27 to 45 inches—strong brown gravelly sandy loam

*Substratum:*

45 to 65 inches—strong brown very gravelly loamy sand

### Minor Components

*Dissimilar components:*

- Alonzo soils, which have more clay in the subsoil than the Pope soil; on stream terraces
- Coursey soils, which have more clay in the subsoil; on stream terraces
- Derroc soils, which have more rock fragments throughout; on flood plains
- Holly soils that are poorly drained; on flood plains
- Orrville soils, which are somewhat poorly drained; on flood plains
- Philo soils, which are moderately well drained; on flood plains
- Soils that have a cobbly surface layer; on flood plains

*Similar components:*

- Soils that have a gravelly surface layer; on flood plains
- Soils that are on slopes of more than 3 percent

### Soil Properties and Qualities

*Available water capacity:* Low (about 5.6 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* Occasional

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Alluvium derived from acid shale, siltstone, and sandstone

#### **Interpretive Groups**

*Prime farmland:* All areas are prime farmland

*Land capability class:* 1

*Virginia soil management group:* A

*Hydric soil:* No

### **56G—Rock outcrop-Opequon complex, 55 to 100 percent slopes**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills (fig. 16)

*Position on the landform:* Extremely steep to near-vertical cliffs along major streams and rivers underlain by limestone and dolomitic limestone

#### **Map Unit Composition**

*Note:* Rock outcrop and this Opequon soil occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Rock outcrop: Typically 60 percent, ranging from about 50 to 70 percent

Opequon and similar soils: Typically 25 percent, ranging from about 15 to 35 percent



**Figure 16.—An example of Rock outcrop-Opequon complex, 55 to 100 percent slopes. This unit forms along the cliffs of the rivers and major creeks in the survey area.**

### Typical Profile

#### Rock outcrop

This part of the map unit consists of hard limestone or dolomitic limestone bedrock that form extremely steep to near-vertical cliffs

#### Opequon

##### *Surface layer:*

0 to 2 inches—dark brown silty clay loam

##### *Subsoil:*

2 to 10 inches—variegated dark yellowish brown and yellowish brown clay

10 to 14 inches—dark yellowish brown clay

##### *Bedrock:*

14 inches—hard limestone

### Minor Components

#### *Dissimilar components:*

- Soils that have very cobbly layers throughout and are very deep to bedrock; at the base of cliffs along streams and rivers

#### *Similar components:*

- Caneyville soils, which are moderately deep to bedrock; on hills
- Carbo soils, which are moderately deep to bedrock; on hills
- Needmore soils, which are moderately deep to bedrock; on hills
- Soils that are on slopes of less than 55 percent or more than 100 percent

### Properties and Qualities of the Opequon Soil

*Available water capacity:* Very low (about 1.6 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Shallow (10 to 20 inches)

*Depth to root-restrictive feature:* 12 to 20 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* High

Surface fragments (stone and/or boulder size): None

*Rockiness:* 50 to 70 percent rock outcrop

*Parent material:* Residuum weathered from limestone; in some places calcareous shale and siltstone

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* Rock outcrop—8; Opequon—7s

*Virginia soil management group:* Rock outcrop—none assigned; Opequon—JJ

*Hydric soil:* No

## 57A—Sensabaugh-Lobdell-Derroc complex, 0 to 3 percent slopes, occasionally flooded

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Flood plains along creeks mainly underlain by limestone and dolomitic limestone

*Position on the landform:* Treads

### Map Unit Composition

*Note:* These Sensabaugh, Lobdell, and Derroc soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Sensabaugh and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

Lobdell and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Derroc and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

### Typical Profile

#### **Sensabaugh**

##### *Surface layer:*

0 to 9 inches—brown loam

##### *Subsoil:*

9 to 22 inches—brown gravelly loam

22 to 27 inches—strong brown gravelly loam

27 to 39 inches—strong brown gravelly loam; black manganese coatings

##### *Substratum:*

39 to 61 inches—strong brown very cobbly sandy loam; black manganese coatings

#### **Lobdell**

##### *Surface layer:*

0 to 10 inches—dark brown loam

10 to 15 inches—dark brown loam

##### *Subsoil:*

15 to 23 inches—brown loam; grayish brown iron depletions

23 to 33 inches—brown loam; grayish brown iron depletions; black manganese masses

##### *Substratum:*

33 to 65 inches—dark yellowish brown sandy loam; grayish brown iron depletions; black manganese masses

#### **Derroc**

##### *Surface layer:*

0 to 3 inches—dark yellowish brown very cobbly sandy loam

3 to 9 inches—dark brown cobbly sandy loam

##### *Subsoil:*

9 to 27 inches—dark yellowish brown very cobbly sandy loam

27 to 33 inches—dark yellowish brown very cobbly loam

##### *Substratum:*

33 to 63 inches—dark yellowish brown very cobbly loamy sand

### Minor Components

#### *Dissimilar components:*

- Ingledove soils, which have more clay in the subsoil than the Sensabaugh, Lobdell, and Derroc soils; on stream terraces
- Botetourt soils, which have more clay in the subsoil; on stream terraces
- Derroc soils, which have more rock fragments throughout; on flood plains
- Holly soils that are poorly drained; on flood plains
- Orrville soils, which are somewhat poorly drained; on flood plains
- Pope soils, which are well drained; on flood plains
- Soils that have a cobbly surface layer; on flood plains

#### *Similar components:*

- Soils that have a gravelly surface layer; on flood plains
- Soils that are on slopes of more than 3 percent

### Soil Properties and Qualities

#### Sensabaugh

*Available water capacity:* Moderate (about 6.7 inches)  
*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)  
*Depth class:* Very deep (more than 60 inches)  
*Depth to root-restrictive feature:* More than 60 inches  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* About 48 to 79 inches  
*Water table kind:* Apparent  
*Flooding hazard:* Occasional  
*Ponding hazard:* None  
*Shrink-swell potential:* Low  
*Surface fragments (stone and/or boulder size):* None  
*Rockiness:* None  
*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

#### Lobdell

*Available water capacity:* High (about 9.5 inches)  
*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)  
*Depth class:* Very deep (more than 60 inches)  
*Depth to root-restrictive feature:* More than 60 inches  
*Drainage class:* Moderately well drained  
*Depth to seasonal water saturation:* About 18 to 36 inches  
*Water table kind:* Apparent  
*Flooding hazard:* Occasional  
*Ponding hazard:* None  
*Shrink-swell potential:* Low  
*Surface fragments (stone and/or boulder size):* None  
*Rockiness:* None  
*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

#### Derroc

*Available water capacity:* Low (about 5.1 inches)  
*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)  
*Depth class:* Very deep (more than 60 inches)  
*Depth to root-restrictive feature:* More than 60 inches  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* Occasional  
*Ponding hazard:* None  
*Shrink-swell potential:* Low  
*Surface fragments (stone and/or boulder size):* None  
*Rockiness:* None  
*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

### Interpretive Groups

*Prime farmland:* Sensabaugh and Lobdell—all areas are prime farmland; Derroc—not prime farmland  
*Land capability class:* Sensabaugh—1; Lobdell—2w; Derroc—4s  
*Virginia soil management group:* Sensabaugh—A; Lobdell—HH; Derroc—CC  
*Hydric soil:* No

## **58B—Shottower fine sandy loam, 3 to 8 percent slopes**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* High level stream terraces

*Position on the landform:* Treads and risers

### **Map Unit Composition**

Shottower and similar soils: Typically 90 percent, ranging from about 80 to 95 percent

### **Typical Profile**

*Surface layer:*

0 to 7 inches—brown fine sandy loam

*Subsoil:*

7 to 15 inches—reddish brown clay loam

15 to 31 inches—red clay

31 to 50 inches—red gravelly clay

50 to 62 inches—red very gravelly clay

### **Minor Components**

*Dissimilar components:*

- Nicelytown soils, which are moderately well drained; on old stream terraces
- Tygart soils, which are somewhat poorly drained; on old stream terraces
- Soils that are moderately deep to shale bedrock; on old stream terraces
- Soils that have a cobbly surface layer; on old stream terraces
- Areas that have sinkholes

*Similar components:*

- Frederick soils, which formed from limestone residual materials; on hills
- Groseclose soils, which formed from limestone and shale residual materials; on hills
- Cottonbend soils, which have less clay in the subsoil than the Shottower soil; on old stream terraces
- Soils that have silt loam or loam surface layers; on old stream terraces
- Soils that have a gravelly surface layer; on old stream terraces
- Soils that have a thin capping of alluvial material over residual clayey material; on old stream terraces
- Soils that are on slopes of less than 3 percent or more than 8 percent

### **Soil Properties and Qualities**

*Available water capacity:* Moderate (about 6.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Old alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale



### Interpretive Groups

*Prime farmland:* All areas are prime farmland

*Land capability class:* 2e

*Virginia soil management group:* O

*Hydric soil:* No

## 58C—Shottower fine sandy loam, 8 to 15 percent slopes

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* High level stream terraces

*Position on the landform:* Treads and risers

### Map Unit Composition

Shottower and similar soils: Typically 90 percent, ranging from about 80 to 95 percent

### Typical Profile

*Surface layer:*

0 to 7 inches—brown fine sandy loam

*Subsoil:*

7 to 15 inches—reddish brown clay loam

15 to 31 inches—red clay

31 to 50 inches—red gravelly clay

50 to 62 inches—red very gravelly clay

### Minor Components

*Dissimilar components:*

- Nicelytown soils, which are moderately well drained; on old stream terraces
- Tygart soils, which are somewhat poorly drained; on old stream terraces
- Soils that are moderately deep to shale bedrock; on old stream terraces
- Soils that have a cobbly surface layer; on old stream terraces
- Areas that have sinkholes

*Similar components:*

- Frederick soils, which formed from limestone residual materials; on hills
- Groseclose soils, which formed from limestone and shale residual materials; on hills
- Cottonbend soils, which have less clay in the subsoil than the Shottower soil; on old stream terraces
- Soils that have silt loam or loam surface layers; on old stream terraces
- Soils that have a gravelly surface layer; on old stream terraces
- Soils that have a thin capping of alluvial material over residual clayey materials; on old stream terraces
- Soils that are on slopes of less than 8 percent or more than 15 percent

### Soil Properties and Qualities

*Available water capacity:* Moderate (about 6.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Old alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 3e

*Virginia soil management group:* O

*Hydric soil:* No

### **58D—Shottower fine sandy loam, 15 to 25 percent slopes**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* High level stream terraces

*Position on the landform:* Treads and risers

#### **Map Unit Composition**

Shottower and similar soils: Typically 85 percent, ranging from about 75 to 90 percent

#### **Typical Profile**

*Surface layer:*

0 to 7 inches—brown fine sandy loam

*Subsoil:*

7 to 15 inches—reddish brown clay loam

15 to 31 inches—red clay

31 to 50 inches—red gravelly clay

50 to 62 inches—red very gravelly clay

#### **Minor Components**

*Dissimilar components:*

- Nicelytown soils, which are moderately well drained; on old stream terraces
- Tygart soils, which are somewhat poorly drained; on old stream terraces
- Soils that are moderately deep to shale bedrock; on old stream terraces
- Soils that have a cobbly surface layer; on old stream terraces
- Areas that have sinkholes

*Similar components:*

- Frederick soils, which formed from limestone residual materials; on hills
- Groseclose soils, which formed from limestone and shale residual materials; on hills
- Cottonbend soils, which have less clay in the subsoil than the Shottower soil; on old stream terraces
- Soils that have silt loam or loam surface layers; on old stream terraces
- Soils that have a gravelly surface layer; on old stream terraces
- Soils that have a thin capping of alluvial material over residual clayey material; on old stream terraces
- Soils that are on slopes of less than 15 percent or more than 25 percent

#### **Soil Properties and Qualities**

*Available water capacity:* Moderate (about 6.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Old alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 4e

*Virginia soil management group:* O

*Hydric soil:* No

### **59E—Shottower cobbly fine sandy loam, 25 to 35 percent slopes**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* High level stream terraces

*Position on the landform:* Treads and risers

#### **Map Unit Composition**

Shottower and similar soils: Typically 85 percent, ranging from about 75 to 95 percent

#### **Typical Profile**

*Surface layer:*

0 to 6 inches—dark brown cobbly fine sandy loam

*Subsoil:*

6 to 15 inches—yellowish red gravelly clay loam

15 to 24 inches—red clay

24 to 40 inches—red gravelly clay

40 to 62 inches—red cobbly clay

#### **Minor Components**

*Dissimilar components:*

- Nicelytown soils, which are moderately well drained; on old stream terraces
- Tygart soils, which are somewhat poorly drained; on old stream terraces
- Soils that are moderately deep to shale bedrock; on old stream terraces
- Areas that have sinkholes

*Similar components:*

- Frederick soils, which formed from limestone residual materials; on hills
- Groseclose soils, which formed from limestone and shale residual materials; on hills
- Cottonbend soils, which have less clay in the subsoil than the Shottower soil; on old stream terraces
- Soils that have silt loam or loam surface layers; on old stream terraces
- Soils that have a gravelly surface layer; on old stream terraces
- Soils that have a thin capping of alluvial material over residual clayey material; on old stream terraces
- Soils that are on slopes of less than 25 percent or more than 35 percent

### Soil Properties and Qualities

*Available water capacity:* Low (about 5.9 inches)  
*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)  
*Depth class:* Very deep (more than 60 inches)  
*Depth to root-restrictive feature:* More than 60 inches  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* Moderate  
*Surface fragments (stone and/or boulder size):* None  
*Rockiness:* None  
*Parent material:* Old alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

### Interpretive Groups

*Prime farmland:* Not prime farmland  
*Land capability class:* 7s  
*Virginia soil management group:* O  
*Hydric soil:* No

## 60C—Shottower-Urban land complex, 3 to 15 percent slopes

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)  
*Landform:* Urban or built-up areas on high level stream terraces within the vicinity of the city of Buena Vista and the town of Glasgow  
*Position on the landform:* Treads and risers

### Map Unit Composition

*Note:* This Shottower soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Shottower and similar soils: Typically 50 percent, ranging from about 45 to 55 percent  
Urban land: Typically 45 percent, ranging from about 40 to 50 percent

### Typical Profile

#### Shottower

*Surface layer:*

0 to 7 inches—brown fine sandy loam

*Subsoil:*

7 to 15 inches—reddish brown clay loam

15 to 31 inches—red clay

31 to 50 inches—red gravelly clay

50 to 62 inches—red very gravelly clay

#### Urban land

This part of the map unit consists of areas covered by impervious surfaces such as asphalt roadways and parking lots, concrete structures, and buildings. A typical profile is not given because the original soils have been disturbed.

### Minor Components

#### *Dissimilar components:*

- Litz soils, which formed in loamy residual materials and are moderately deep to bedrock; on undisturbed hills
- Nicelytown soils, which are moderately well drained; on undisturbed stream terraces
- Areas that have sinkholes
- Soils that have been disturbed by grading, cutting, and filling

#### *Similar components:*

- Cottonbend soils, which have less clay in the subsoil than the Shottower soil; on undisturbed stream terraces
- Groseclose soils, which formed in clayey residual materials; on undisturbed hills
- Soils that are deep to bedrock; on undisturbed stream terraces
- Soils that have more gravel or cobbles in the surface layer; on undisturbed stream terraces
- Soils that are on slopes of less than 3 percent or more than 15 percent

### Properties and Qualities of the Shottower Soil

*Available water capacity:* Moderate (about 6.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Old alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* Shottower—3e; Urban land—8

*Virginia soil management group:* Shottower—O; Urban land—none assigned

*Hydric soil:* Shottower—no; Urban land—unranked

## 61B—Slabtown silt loam, 0 to 8 percent slopes

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Upland drainageways and base of hillslopes in limestone valleys

*Position on the landform:* Concave base slopes and head slopes

### Map Unit Composition

Slabtown and similar soils: Typically 80 percent, ranging from about 70 to 85 percent

### Typical Profile

#### *Surface layer:*

0 to 9 inches—brown silt loam

#### *Subsoil:*

9 to 14 inches—yellowish brown silt loam

14 to 24 inches—yellowish brown silty clay loam; black manganese masses

24 to 35 inches—yellowish brown silty clay loam; light brownish gray iron depletions; black manganese masses  
35 to 42 inches—yellowish brown clay; grayish brown iron depletions  
42 to 57 inches—yellowish brown silty clay; light brownish gray iron depletions  
57 to 64 inches—yellowish brown clay; light brownish gray iron depletions; red masses of oxidized iron

#### **Minor Components**

*Dissimilar components:*

- Frederick soils, which are well drained; on adjacent hills
- Groseclose soils, which are well drained; on adjacent hills
- Holly soils, which are susceptible to flooding and ponding and are poorly drained; on flood plains
- Lobdell soils, which are susceptible to flooding; on flood plains
- Orrville soils, which are susceptible to flooding and ponding and are somewhat poorly drained; on flood plains
- Watahala soils, which are well drained; on adjacent hills
- Soils that carry overland flow of water after intense periods of rain; concentrated on lowest level within the swales
- Areas that have sinkholes

*Similar components:*

- Soils that have a gravelly surface layer; in local colluvial positions
- Soils that are on slopes of more than 8 percent

#### **Soil Properties and Qualities**

*Available water capacity:* High (about 9.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Moderately well drained

*Depth to seasonal water saturation:* About 18 to 36 inches

*Water table kind:* Perched

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* High

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Local colluvium weathered from limestone, dolomitic limestone, and some interbedded sandstone and shale

#### **Interpretive Groups**

*Prime farmland:* All areas are prime farmland

*Land capability class:* 2e

*Virginia soil management group:* G

*Hydric soil:* No

### **61C—Slabtown silt loam, 8 to 15 percent slopes**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Upland drainageways and base of hillslopes in limestone valleys

*Position on the landform:* Concave base slopes and head slopes



### Map Unit Composition

Slabtown and similar soils: Typically 80 percent, ranging from about 70 to 85 percent

### Typical Profile

*Surface layer:*

0 to 9 inches—brown silt loam

*Subsoil:*

9 to 14 inches—yellowish brown silt loam

14 to 24 inches—yellowish brown silty clay loam; black manganese masses

24 to 35 inches—yellowish brown silty clay loam; light brownish gray iron depletions; black manganese masses

35 to 42 inches—yellowish brown clay; grayish brown iron depletions

42 to 57 inches—yellowish brown silty clay; light brownish gray iron depletions

57 to 64 inches—yellowish brown clay; light brownish gray iron depletions; red masses of oxidized iron

### Minor Components

*Dissimilar components:*

- Frederick soils, which are well drained; on adjacent hills
- Groseclose soils, which are well drained; on adjacent hills
- Holly soils, which are susceptible to flooding and ponding and are poorly drained; on flood plains
- Lobdell soils, which are susceptible to flooding; on flood plains
- Orrville soils, which are susceptible to flooding and ponding and are somewhat poorly drained; on flood plains
- Watahala soils, which are well drained; on adjacent hills
- Soils that carry overland flow of water after intense periods of rain; concentrated on lowest level within the swales
- Areas that have sinkholes

*Similar components:*

- Soils that have a gravelly surface layer; in local colluvial positions
- Soils that are on slopes of less than 8 percent or more than 15 percent

### Soil Properties and Qualities

*Available water capacity:* High (about 9.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Moderately well drained

*Depth to seasonal water saturation:* About 18 to 36 inches

*Water table kind:* Perched

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* High

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Local colluvium weathered from limestone, dolomitic limestone, and some interbedded sandstone and shale

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* 3e

*Virginia soil management group:* G

*Hydric soil:* No

## 62—Slickens

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Settling ponds

*Note:* This map unit consists of Slickens, which are settling ponds that contain accumulations of chemically treated, fine-textured material. Slickens are confined mainly in specially constructed basins or ponds. Some Slickens consist of precipitate and sludge from old dye processing plant near Goshen.

### Map Unit Composition

Slickens: Typically 100 percent, ranging from about 90 to 100 percent

### General Description

Slickens are accumulations of fine textured material, such as that separated in placer mine and ore mill operations. Slickens from ore mills consist largely of freshly ground rock that commonly has undergone chemical treatment during the milling process. Slickens are usually confined in specially constructed basins and are often contaminated by metallic compounds.

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* 8

*Virginia soil management group:* None assigned

*Hydric soil:* Unranked

## 63E—Stumptown-Marbleyard-Rock outcrop complex, 15 to 35 percent slopes, extremely stony

### Setting

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains

*Position on the landform:* Mountaintops and mountain flanks

*Note:* This map unit describes the dominant soils in the Unicoi Formation where narrow bands of metaquartzite rock outcrop are present.

### Map Unit Composition

*Note:* These Stumptown and Marbleyard soils and Rock outcrop occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Stumptown and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

Marbleyard and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Rock outcrop: Typically 15 percent, ranging from about 10 to 20 percent

### Typical Profile

#### Stumptown

*Organic layer:*

0 to 1 inch—highly decomposed plant material

*Surface layer:*

1 to 2 inches—very dark brown gravelly sandy loam

*Subsurface layer:*

2 to 3 inches—brown gravelly loam

*Subsoil:*

- 3 to 8 inches—light olive brown gravelly loam
- 8 to 17 inches—brownish yellow very gravelly loam

*Substratum:*

- 17 to 33 inches—brownish yellow extremely stony loam

*Bedrock:*

- 33 inches—feldspathic metasandstone

**Marbleyard**

*Organic layer:*

- 0 to 1 inch—slightly decomposed plant material

*Surface layer:*

- 1 to 4 inches—dark brown very cobbly sandy loam

*Subsoil:*

- 4 to 9 inches—yellowish brown very cobbly sandy loam
- 9 to 23 inches—yellowish brown extremely cobbly sandy loam

*Substratum:*

- 23 to 36 inches—brownish yellow extremely gravelly sandy loam

*Bedrock:*

- 36 inches—hard fractured very pale brown and light gray metaquartzite

**Rock outcrop**

This part of the map unit consists of rock outcrop of metaquartzite bedrock which forms in narrow bands typically about 250 feet in width. Height ranges from a few inches to about 50 feet in height. Taller near-vertical cliffs are found in some places.

**Minor Components**

*Dissimilar components:*

- Lostcove soils, which are very deep to bedrock; in colluvial positions and drainageways
- Areas of more extensive rock outcrop

*Similar components:*

- Sylco soils, which have more silt in the subsoil than the Stumptown and Marbleyard soils; on mountains
- Soils that have a very stony surface; on mountains
- Soils that are shallow to bedrock; on mountains
- Soils that are on slopes of less than 15 percent or more than 35 percent

**Soil Properties and Qualities**

**Stumptown**

*Available water capacity:* Very low (about 2.6 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* 10 to 20 percent rock outcrop

*Parent material:* Residuum weathered from feldspathic metasandstone, metasilstone, and metashale

**Marbleyard**

*Available water capacity:* Very low (about 2.0 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* 10 to 20 percent rock outcrop

*Parent material:* Residuum weathered from metaquartzite and metasandstone

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* Stumptown and Marbleyard—7s; Rock outcrop—8

*Virginia soil management group:* Stumptown and Marbleyard—FF; Rock outcrop—none assigned

*Hydric soil:* No

**63F—Stumptown-Marbleyard-Rock outcrop complex, 35 to 55 percent slopes, extremely stony**

**Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains

*Position on the landform:* Mountain flanks

*Note:* This map unit describes the dominant soils in the Unicoi Formation where narrow bands of metaquartzite rock outcrop are present.

**Map Unit Composition**

*Note:* These Stumptown and Marbleyard soils and Rock outcrop occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Stumptown and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

Marbleyard and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Rock outcrop: Typically 15 percent, ranging from about 10 to 20 percent

**Typical Profile**

**Stumptown**

*Organic layer:*

0 to 1 inch—highly decomposed plant material

*Surface layer:*

1 to 2 inches—very dark brown gravelly sandy loam

*Subsurface layer:*

2 to 3 inches—brown gravelly loam

*Subsoil:*

3 to 8 inches—light olive brown gravelly loam

8 to 17 inches—brownish yellow very gravelly loam

*Substratum:*

17 to 33 inches—brownish yellow extremely stony loam

**Bedrock:**

33 inches—feldspathic metasandstone

**Marbleyard**

**Organic layer:**

0 to 1 inch—slightly decomposed plant material

**Surface layer:**

1 to 4 inches—dark brown very cobbly sandy loam

**Subsoil:**

4 to 9 inches—yellowish brown very cobbly sandy loam

9 to 23 inches—yellowish brown extremely cobbly sandy loam

**Substratum:**

23 to 36 inches—brownish yellow extremely gravelly sandy loam

**Bedrock:**

36 inches—hard fractured very pale brown and light gray metaquartzite

**Rock outcrop**

This part of the map unit consists of rock outcrop of metaquartzite bedrock which forms in narrow bands typically about 250 feet in width. Height ranges from a few inches to about 50 feet in height. Taller near-vertical cliffs are found in some places.

**Minor Components**

**Dissimilar components:**

- Lostcove soils, which are very deep to bedrock; in colluvial positions and drainageways
- Areas of more extensive rock outcrop

**Similar components:**

- Sylco soils, which have more silt in the subsoil than the Stumptown and Marbleyard soils; on mountains
- Soils that have a very stony surface; on mountains
- Soils that are shallow to bedrock; on mountains
- Soils that are on slopes of less than 35 percent or more than 55 percent

**Soil Properties and Qualities**

**Stumptown**

*Available water capacity:* Very low (about 2.6 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* 10 to 20 percent rock outcrop

*Parent material:* Residuum weathered from feldspathic metasandstone, metasilstone, and metashale

**Marbleyard**

*Available water capacity:* Very low (about 2.0 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* 10 to 20 percent rock outcrop

*Parent material:* Residuum weathered from metaquartzite and metasandstone

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* Stumptown and Marbleyard—7s; Rock outcrop—8

*Virginia soil management group:* Stumptown and Marbleyard—FF; Rock outcrop—  
none assigned

*Hydric soil:* No

### **63G—Stumptown-Marbleyard-Rock outcrop complex, 55 to 80 percent slopes, extremely stony**

#### **Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains

*Position on the landform:* Mountain flanks

*Note:* This map unit describes the dominant soils in the Unicoi Formation where narrow bands of metaquartzite rock outcrop are present.

#### **Map Unit Composition**

*Note:* These Stumptown and Marbleyard soils and Rock outcrop occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Stumptown and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

Marbleyard and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Rock outcrop: Typically 15 percent, ranging from about 10 to 20 percent

#### **Typical Profile**

##### **Stumptown**

*Organic layer:*

0 to 1 inch—highly decomposed plant material

*Surface layer:*

1 to 2 inches—very dark brown gravelly sandy loam

*Subsurface layer:*

2 to 3 inches—brown gravelly loam

*Subsoil:*

3 to 8 inches—light olive brown gravelly loam

8 to 17 inches—brownish yellow very gravelly loam

*Substratum:*

17 to 33 inches—brownish yellow extremely stony loam

*Bedrock:*

33 inches—feldspathic metasandstone

##### **Marbleyard**

*Organic layer:*

0 to 1 inch—slightly decomposed plant material



*Surface layer:*

1 to 4 inches—dark brown very cobbly sandy loam

*Subsoil:*

4 to 9 inches—yellowish brown very cobbly sandy loam

9 to 23 inches—yellowish brown extremely cobbly sandy loam

*Substratum:*

23 to 36 inches—brownish yellow extremely gravelly sandy loam

*Bedrock:*

36 inches—hard fractured very pale brown and light gray metaquartzite

**Rock outcrop**

This part of the map unit consists of rock outcrop of metaquartzite bedrock which forms in narrow bands typically about 250 feet in width. Height ranges from a few inches to about 50 feet in height. Taller near-vertical cliffs are found in some places.

**Minor Components**

*Dissimilar components:*

- Lostcove soils, which are very deep to bedrock; in colluvial positions and drainageways
- Areas of more extensive rock outcrop

*Similar components:*

- Sylco soils, which have more silt in the subsoil than the Stumptown and Marbleyard soils; on mountains
- Soils that have a very stony surface; on mountains
- Soils that are shallow to bedrock; on mountains
- Soils that are on slopes of less than 55 percent or more than 80 percent

**Soil Properties and Qualities**

**Stumptown**

*Available water capacity:* Very low (about 2.6 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* 10 to 20 percent rock outcrop

*Parent material:* Residuum weathered from feldspathic metasandstone, metasilstone, and metashale

**Marbleyard**

*Available water capacity:* Very low (about 2.0 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* 10 to 20 percent rock outcrop

*Parent material:* Residuum weathered from metaquartzite and metasandstone

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* Stumptown and Marbleyard—7s; Rock outcrop—8

*Virginia soil management group:* Stumptown and Marbleyard—FF; Rock outcrop—  
none assigned

*Hydric soil:* No

### **64E—Stumptown-Sylco complex, 15 to 35 percent slopes, very stony**

#### **Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains

*Position on the landform:* Mountaintops and mountain flanks

*Note:* This map unit describes the dominant soils in the Unicoi Formation where  
narrow bands of metaquartzite rock outcrop typically are not present.

#### **Map Unit Composition**

*Note:* These Stumptown and Sylco soils occur as areas so closely intermingled that  
they could not be separated at the scale selected for mapping.

Stumptown and similar soils: Typically 50 percent, ranging from about 45 to 55 percent

Sylco and similar soils: Typically 45 percent, ranging from about 40 to 50 percent

#### **Typical Profile**

##### **Stumptown**

*Organic layer:*

0 to 1 inch—highly decomposed plant material

*Surface layer:*

1 to 2 inches—very dark brown gravelly sandy loam

*Subsurface layer:*

2 to 3 inches—brown gravelly loam

*Subsoil:*

3 to 8 inches—light olive brown gravelly loam

8 to 17 inches—brownish yellow very gravelly loam

*Substratum:*

17 to 33 inches—brownish yellow extremely stony loam

*Bedrock:*

33 inches—feldspathic metasandstone

##### **Sylco**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 2 inches—brown channery loam

*Subsoil:*

2 to 6 inches—yellowish brown channery loam

6 to 16 inches—yellowish brown very channery loam

16 to 22 inches—yellowish brown extremely channery loam

*Substratum:*

22 to 29 inches—yellowish brown extremely channery loam

## Soil Survey of Rockbridge County, Virginia

### *Bedrock:*

29 inches—moderately hard metasiltstone interbedded with metasandstone

### **Minor Components**

#### *Dissimilar components:*

- Lostcove soils, which are very deep to bedrock; in colluvial positions and drainageways
- Small areas of rock outcrop

#### *Similar components:*

- Marbleyard soils, which have more sand throughout than the Stumptown and Sylco soils; on mountains
- McCamy soils, which have clay accumulation in the subsoil; on mountains
- Soils that have an extremely stony surface; on mountains
- Soils that are shallow to bedrock; on mountains
- Soils that are on slopes of less than 15 percent or more than 35 percent

### **Soil Properties and Qualities**

#### **Stumptown**

*Available water capacity:* Very low (about 2.6 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from feldspathic metasandstone, metasiltstone, and metashale

#### **Sylco**

*Available water capacity:* Very low (about 2.7 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Somewhat excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from metasiltstone, metashale, and fine grained metasandstone

### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7s

*Virginia soil management group:* Stumptown—FF; Sylco—JJ

*Hydric soil:* No

## **64F—Stumptown-Sylco complex, 35 to 55 percent slopes, very stony**

### **Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains

*Position on the landform:* Mountain flanks

*Note:* This map unit describes the dominant soils in the Unicoi Formation where narrow bands of metaquartzite rock outcrop typically are not present.

### **Map Unit Composition**

*Note:* These Stumptown and Sylco soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Stumptown and similar soils: Typically 50 percent, ranging from about 45 to 55 percent

Sylco and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

### **Typical Profile**

#### **Stumptown**

*Organic layer:*

0 to 1 inch—highly decomposed plant material

*Surface layer:*

1 to 2 inches—very dark brown gravelly sandy loam

*Subsurface layer:*

2 to 3 inches—brown gravelly loam

*Subsoil:*

3 to 8 inches—light olive brown gravelly loam

8 to 17 inches—brownish yellow very gravelly loam

*Substratum:*

17 to 33 inches—brownish yellow extremely stony loam

*Bedrock:*

33 inches—feldspathic metasandstone

#### **Sylco**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 2 inches—brown channery loam

*Subsoil:*

2 to 6 inches—yellowish brown channery loam

6 to 16 inches—yellowish brown very channery loam

16 to 22 inches—yellowish brown extremely channery loam

*Substratum:*

22 to 29 inches—yellowish brown extremely channery loam

*Bedrock:*

29 inches—moderately hard metasiltstone interbedded with metasandstone

### **Minor Components**

*Dissimilar components:*

- Lostcove soils, which are very deep to bedrock; in colluvial positions and drainageways
- Small areas of rock outcrop

*Similar components:*

- Marbleyard soils, which have more sand throughout than the Stumptown and Sylco soils; on mountains
- McCamy soils, which have clay accumulation in the subsoil; on mountains
- Soils that have an extremely stony surface; on mountains
- Soils that are shallow to bedrock; on mountains
- Soils that are on slopes of less than 35 percent or more than 55 percent

**Soil Properties and Qualities**

**Stumptown**

*Available water capacity:* Very low (about 2.6 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from feldspathic metasandstone, metasilstone, and metashale

**Sylco**

*Available water capacity:* Very low (about 2.7 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Somewhat excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from metasilstone, metashale, and fine grained metasandstone

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7e

*Virginia soil management group:* Stumptown—FF; Sylco—JJ

*Hydric soil:* No

**65E—Sylco-Marbleyard complex, 15 to 35 percent slopes, very rocky**

**Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains

*Position on the landform:* Mountaintops and mountain flanks

*Note:* This map unit describes the dominant soils in the Harpers Formation.

### Map Unit Composition

*Note:* These Sylco and Marbleyard soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Sylco and similar soils: Typically 45 percent, ranging from about 40 to 50 percent

Marbleyard and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

### Typical Profile

#### Sylco

##### *Organic layer:*

0 to 1 inch—moderately decomposed plant material

##### *Surface layer:*

1 to 2 inches—brown channery loam

##### *Subsoil:*

2 to 6 inches—yellowish brown channery loam

6 to 16 inches—yellowish brown very channery loam

16 to 22 inches—yellowish brown extremely channery loam

##### *Substratum:*

22 to 29 inches—yellowish brown extremely channery loam

##### *Bedrock:*

29 inches—moderately hard metasiltstone interbedded with metasandstone

#### Marbleyard

##### *Organic layer:*

0 to 1 inch—slightly decomposed plant material

##### *Surface layer:*

1 to 4 inches—dark brown very cobbly sandy loam

##### *Subsoil:*

4 to 9 inches—yellowish brown very cobbly sandy loam

9 to 23 inches—yellowish brown extremely cobbly sandy loam

##### *Substratum:*

23 to 36 inches—brownish yellow extremely gravelly sandy loam

##### *Bedrock:*

36 inches—hard fractured very pale brown and light gray metaquartzite

### Minor Components

##### *Dissimilar components:*

- Lostcove soils, which are very deep to bedrock; in colluvial positions and drainageways
- Soils that have a very stony surface; on mountains
- Areas of less than 2 percent or more than 10 percent rock outcrop

##### *Similar components:*

- Stumptown soils, which have a thin layer of clay accumulation in the subsoil; on mountains
- Soils that are shallow to bedrock; on mountains
- Soils that are on slopes of less than 15 percent or more than 35 percent

### Soil Properties and Qualities

#### Sylco

*Available water capacity:* Very low (about 2.7 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Somewhat excessively drained



*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* 2 to 10 percent rock outcrop of metaquartzite bedrock which forms in narrow bands typically about 250 feet in width. Height ranges from a few inches to about 50 feet in height. Taller near-vertical cliffs are found in some places.

*Parent material:* Residuum weathered from metasiltstone, metashale, and fine grained metasandstone

#### **Marbleyard**

*Available water capacity:* Very low (about 2.0 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* 2 to 10 percent rock outcrop of metaquartzite bedrock which forms in narrow bands typically about 250 feet in width. Height ranges from a few inches to about 50 feet in height. Taller near-vertical cliffs are found in some places.

*Parent material:* Residuum weathered from metaquartzite and metasandstone

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 6s

*Virginia soil management group:* Sylco—JJ; Marbleyard—FF

*Hydric soil:* No

### **65F—Sylco-Marbleyard complex, 35 to 55 percent slopes, very rocky**

#### **Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains

*Position on the landform:* Mountain flanks

*Note:* This map unit describes the dominant soils in the Harpers Formation.

#### **Map Unit Composition**

*Note:* These Sylco and Marbleyard soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Sylco and similar soils: Typically 50 percent, ranging from about 45 to 55 percent

Marbleyard and similar soils: Typically 45 percent, ranging from about 40 to 50 percent

#### **Typical Profile**

##### **Sylco**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 2 inches—brown channery loam

*Subsoil:*

2 to 6 inches—yellowish brown channery loam

6 to 16 inches—yellowish brown very channery loam

16 to 22 inches—yellowish brown extremely channery loam

*Substratum:*

22 to 29 inches—yellowish brown extremely channery loam

*Bedrock:*

29 inches—moderately hard metasiltstone interbedded with metasandstone

**Marbleyard**

*Organic layer:*

0 to 1 inch—slightly decomposed plant material

*Surface layer:*

1 to 4 inches—dark brown very cobbly sandy loam

*Subsoil:*

4 to 9 inches—yellowish brown very cobbly sandy loam

9 to 23 inches—yellowish brown extremely cobbly sandy loam

*Substratum:*

23 to 36 inches—brownish yellow extremely gravelly sandy loam

*Bedrock:*

36 inches—hard fractured very pale brown and light gray metaquartzite

**Minor Components**

*Dissimilar components:*

- Lostcove soils, which are very deep to bedrock; in colluvial positions and drainageways
- Soils that have a very stony surface; on mountains
- Areas of less than 2 percent or more than 10 percent rock outcrop

*Similar components:*

- Stumptown soils, which have a thin layer of clay accumulation in the subsoil; on mountains
- Soils that are shallow to bedrock; on mountains
- Soils that are on slopes of less than 35 percent or more than 55 percent

**Soil Properties and Qualities**

**Sylco**

*Available water capacity:* Very low (about 2.7 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Somewhat excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* 2 to 10 percent rock outcrop of metaquartzite bedrock which forms in narrow bands typically about 250 feet in width. Height ranges from a few inches to about 50 feet in height. Taller near-vertical cliffs are found in some places.

*Parent material:* Residuum weathered from metasiltstone, metashale, and fine grained metasandstone

**Marbleyard**

*Available water capacity:* Very low (about 2.0 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* 2 to 10 percent rock outcrop of metaquartzite bedrock which forms in narrow bands typically about 250 feet in width. Height ranges from a few inches to about 50 feet in height. Taller near-vertical cliffs are found in some places.

*Parent material:* Residuum weathered from metaquartzite and metasandstone

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7e

*Virginia soil management group:* Sylco—JJ; Marbleyard—FF

*Hydric soil:* No

**65G—Sylco-Marbleyard complex, 55 to 80 percent slopes,  
very rocky**

**Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains

*Position on the landform:* Mountain flanks

*Note:* This map unit describes the dominant soils in the Harpers Formation.

**Map Unit Composition**

*Note:* These Sylco and Marbleyard soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Sylco and similar soils: Typically 50 percent, ranging from about 45 to 55 percent

Marbleyard and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

**Typical Profile**

**Sylco**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 2 inches—brown channery loam

*Subsoil:*

2 to 6 inches—yellowish brown channery loam

6 to 16 inches—yellowish brown very channery loam

16 to 22 inches—yellowish brown extremely channery loam

*Substratum:*

22 to 29 inches—yellowish brown extremely channery loam

*Bedrock:*

29 inches—moderately hard metasiltstone interbedded with metasandstone

**Marbleyard**

*Organic layer:*

0 to 1 inch—slightly decomposed plant material

*Surface layer:*

1 to 4 inches—dark brown very cobbly sandy loam

*Subsoil:*

4 to 9 inches—yellowish brown very cobbly sandy loam

9 to 23 inches—yellowish brown extremely cobbly sandy loam

*Substratum:*

23 to 36 inches—brownish yellow extremely gravelly sandy loam

*Bedrock:*

36 inches—hard fractured very pale brown and light gray metaquartzite

**Minor Components**

*Dissimilar components:*

- Lostcove soils, which are very deep to bedrock; in colluvial positions and drainageways
- Soils that have a very stony surface; on mountains
- Areas of less than 2 percent or more than 10 percent rock outcrop

*Similar components:*

- Stumptown soils, which have a thin layer of clay accumulation in the subsoil; on mountains
- Soils that are shallow to bedrock; on mountains
- Soils that are on slopes of less than 55 percent or more than 80 percent

**Soil Properties and Qualities**

**Sylco**

*Available water capacity:* Very low (about 2.7 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Somewhat excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* 2 to 10 percent rock outcrop of metaquartzite bedrock which forms in narrow bands typically about 250 feet in width. Height ranges from a few inches to about 50 feet in height. Taller near-vertical cliffs are found in some places.

*Parent material:* Residuum weathered from metasiltstone, metashale, and fine grained metasandstone

**Marbleyard**

*Available water capacity:* Very low (about 2.0 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 3.00 to 15.00 percent surface cover

*Rockiness:* 2 to 10 percent rock outcrop of metaquartzite bedrock which forms in narrow bands typically about 250 feet in width. Height ranges from a few inches to about 50 feet in height. Taller near-vertical cliffs are found in some places.

*Parent material:* Residuum weathered from metaquartzite and metasandstone

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7e

*Virginia soil management group:* Sylco—JJ; Marbleyard—FF

*Hydric soil:* No

### **66C—Thunder-Saunook complex, 3 to 15 percent slopes, very bouldery**

#### **Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Base of slopes of mountains and on lower mountain slopes

*Position on the landform:* Mountain bases and head slopes along drainageways and in coves

#### **Map Unit Composition**

*Note:* These Thunder and Saunook soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Thunder and similar soils: Typically 50 percent, ranging from about 45 to 55 percent

Saunook and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

#### **Typical Profile**

##### **Thunder**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 16 inches—very dark brown very cobbly loam

16 to 22 inches—dark brown very gravelly loam

*Subsoil:*

22 to 38 inches—brown extremely stony loam

38 to 46 inches—strong brown very cobbly loam

46 to 65 inches—dark yellowish brown very cobbly loam

##### **Saunook**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 8 inches—very dark grayish brown gravelly loam

8 to 13 inches—dark yellowish brown loam

*Subsoil:*

13 to 24 inches—strong brown clay loam

24 to 41 inches—yellowish red gravelly clay loam

41 to 54 inches—yellowish red cobbly clay loam

54 to 65 inches—strong brown very cobbly loam

### Minor Components

#### *Dissimilar components:*

- Edneytown soils, which are very deep to bedrock; on adjacent mountains
- Peaks soils, which are moderately deep to bedrock; on adjacent mountains
- Plott soils, which are very deep to bedrock; on adjacent mountains
- Unaka soils, which are moderately deep to bedrock; on adjacent mountains
- Soils that are moderately well drained or somewhat poorly drained; in colluvial positions and drainageways
- Soils that are susceptible to flooding; on flood plains
- Soils that have an extremely bouldery or rubbly surface; in colluvial positions and drainageways

#### *Similar components:*

- Soils that have a dark surface layer that is thinner than those of the Thunder and Saunook soils; in colluvial positions and drainageways
- Soils that are on slopes of less than 3 percent or more than 15 percent percent

### Soil Properties and Qualities

#### **Thunder**

*Available water capacity:* Moderate (about 7.6 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Colluvium derived from granite, granulite, and charnockite

#### **Saunook**

*Available water capacity:* Moderate (about 6.5 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Colluvium derived from granite, granulite, and charnockite

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* 7s

*Virginia soil management group:* Thunder—GG; Saunook—L

*Hydric soil:* No



## **66E—Thunder-Saunook complex, 15 to 35 percent slopes, very bouldery**

### **Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Base of slopes of mountains and on lower mountain slopes

*Position on the landform:* Mountain bases and head slopes along drainageways and in coves

### **Map Unit Composition**

*Note:* These Thunder and Saunook soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Thunder and similar soils: Typically 50 percent, ranging from about 45 to 55 percent

Saunook and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

### **Typical Profile**

#### **Thunder**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 16 inches—very dark brown very cobbly loam

16 to 22 inches—dark brown very gravelly loam

*Subsoil:*

22 to 38 inches—brown extremely stony loam

38 to 46 inches—strong brown very cobbly loam

46 to 65 inches—dark yellowish brown very cobbly loam

#### **Saunook**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 8 inches—very dark grayish brown gravelly loam

8 to 13 inches—dark yellowish brown loam

*Subsoil:*

13 to 24 inches—strong brown clay loam

24 to 41 inches—yellowish red gravelly clay loam

41 to 54 inches—yellowish red cobbly clay loam

54 to 65 inches—strong brown very cobbly loam

### **Minor Components**

*Dissimilar components:*

- Edneytown soils, which are very deep to bedrock; on adjacent mountains
- Peaks soils, which are moderately deep to bedrock; on adjacent mountains
- Plott soils, which are very deep to bedrock; on adjacent mountains
- Unaka soils, which are moderately deep to bedrock; on adjacent mountains
- Soils that are moderately well drained or somewhat poorly drained; in colluvial positions and drainageways
- Soils that are susceptible to flooding; on flood plains
- Soils that have an extremely bouldery or rubbly surface; in colluvial positions and drainageways

*Similar components:*

- Soils that have a dark surface layer that is thinner than those of the Thunder and Saunook soils; in colluvial positions and drainageways
- Soils that are on slopes of less than 15 percent or more than 35 percent

**Soil Properties and Qualities**

**Thunder**

*Available water capacity:* Moderate (about 7.6 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Colluvium derived from granite, granulite, and charnockite

**Saunook**

*Available water capacity:* Moderate (about 6.5 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Colluvium derived from granite, granulite, and charnockite

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7s

*Virginia soil management group:* Thunder—GG; Saunook—L

*Hydric soil:* No

**66F—Thunder-Saunook complex, 35 to 55 percent slopes, very bouldery**

**Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Base of slopes of mountains and on lower mountain slopes

*Position on the landform:* Mountain bases and head slopes along drainageways and in coves

**Map Unit Composition**

*Note:* These Thunder and Saunook soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Thunder and similar soils: Typically 50 percent, ranging from about 45 to 55 percent

Saunook and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

### Typical Profile

#### Thunder

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 16 inches—very dark brown very cobbly loam

16 to 22 inches—dark brown very gravelly loam

*Subsoil:*

22 to 38 inches—brown extremely stony loam

38 to 46 inches—strong brown very cobbly loam

46 to 65 inches—dark yellowish brown very cobbly loam

#### Saunook

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 8 inches—very dark grayish brown gravelly loam

8 to 13 inches—dark yellowish brown loam

*Subsoil:*

13 to 24 inches—strong brown clay loam

24 to 41 inches—yellowish red gravelly clay loam

41 to 54 inches—yellowish red cobbly clay loam

54 to 65 inches—strong brown very cobbly loam

### Minor Components

*Dissimilar components:*

- Edneytown soils, which are very deep to bedrock; on adjacent mountains
- Peaks soils, which are moderately deep to bedrock; on adjacent mountains
- Plott soils, which are very deep to bedrock; on adjacent mountains
- Unaka soils, which are moderately deep to bedrock; on adjacent mountains
- Soils that are moderately well drained or somewhat poorly drained; in colluvial positions and drainageways
- Soils that are susceptible to flooding; on flood plains
- Soils that have an extremely bouldery or rubbly surface; in colluvial positions and drainageways

*Similar components:*

- Soils that have a dark surface layer that is thinner than those of the Thunder and Saunook soils; in colluvial positions and drainageways
- Soils that are on slopes of less than 35 percent or more than 55 percent

### Soil Properties and Qualities

#### Thunder

*Available water capacity:* Moderate (about 7.6 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Colluvium derived from granite, granulite, and charnockite

**Saunook**

*Available water capacity:* Moderate (about 6.5 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Colluvium derived from granite, granulite, and charnockite

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7e

*Virginia soil management group:* Thunder—GG; Saunook—L

*Hydric soil:* No

**67C—Tumbling-Vanella complex, 8 to 15 percent slopes**

**Setting**

Major land resource area(s): Northern Appalachian Ridges and Valleys and western flank of Northern Blue Ridge Mountains (MLRAs 147 and 130A)

*Landform:* Base of mountains

*Position on the landform:* Nose slopes and side slopes

**Map Unit Composition**

*Note:* These Tumbling and Vanella soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Tumbling and similar soils: Typically 50 percent, ranging from about 40 to 60 percent

Vanella and similar soils: Typically 40 percent, ranging from about 30 to 50 percent

**Typical Profile**

**Tumbling**

*Surface layer:*

0 to 5 inches—dark brown fine sandy loam

*Subsoil:*

5 to 12 inches—dark yellowish brown fine sandy loam

12 to 18 inches—strong brown sandy clay loam

18 to 31 inches—red clay

31 to 54 inches—red cobbly clay; red and brownish yellow lithochromic mottles

54 to 65 inches—red clay; red and brownish yellow lithochromic mottles

**Vanella**

*Surface layer:*

0 to 6 inches—dark yellowish brown fine sandy loam

*Subsurface layer:*

6 to 16 inches—yellowish brown fine sandy loam

*Subsoil:*

- 16 to 33 inches—yellowish red loam
- 33 to 45 inches—red clay loam
- 45 to 62 inches—red very cobbly clay loam

**Minor Components**

*Dissimilar components:*

- Carbo soils, which are moderately deep to bedrock; on adjacent hills and mountains
- Needmore soils, which are moderately deep to bedrock; on adjacent hills and mountains
- Nicelytown soils, which are moderately well drained; on stream terraces
- Oriskany soils, which have more rock fragments in the soil than the Tumbling and Vanella soils; in colluvial positions and drainageways
- Soils that are moderately well drained; in old colluvial positions
- Soils that have a cobbly surface layer; in old colluvial positions

*Similar components:*

- Groseclose soils, which formed from limestone and shale residual materials; on adjacent hills
- Murrill soils, which formed in loamy colluvial materials; in colluvial positions and drainageways
- Shottower soils, which formed in old alluvial materials; on stream terraces
- Soils that have a gravelly surface layer; in old colluvial positions
- Soils that are on slopes of less than 8 percent or more than 15 percent

**Soil Properties and Qualities**

**Tumbling**

*Available water capacity:* Moderate (about 6.7 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Old colluvium derived from sandstone, shale, siltstone, limestone, dolomitic limestone, quartzite, metasandstone, and phyllite

**Vanella**

*Available water capacity:* Moderate (about 7.6 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Old colluvium derived from sandstone, shale, siltstone, limestone, dolomitic limestone, quartzite, metasandstone, and phyllite

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* 3e

*Virginia soil management group:* Tumbling—O; Vanella—L

*Hydric soil:* No

## 67D—Tumbling-Vanella complex, 15 to 25 percent slopes

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys and western flank of Northern Blue Ridge Mountains (MLRAs 147 and 130A)

*Landform:* Base of mountains

*Position on the landform:* Nose slopes and side slopes

### Map Unit Composition

*Note:* These Tumbling and Vanella soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Tumbling and similar soils: Typically 50 percent, ranging from about 40 to 60 percent

Vanella and similar soils: Typically 40 percent, ranging from about 30 to 50 percent

### Typical Profile

#### Tumbling

*Surface layer:*

0 to 5 inches—dark brown fine sandy loam

*Subsoil:*

5 to 12 inches—dark yellowish brown fine sandy loam

12 to 18 inches—strong brown sandy clay loam

18 to 31 inches—red clay

31 to 54 inches—red cobbly clay; red and brownish yellow lithochromic mottles

54 to 65 inches—red clay; red and brownish yellow lithochromic mottles

#### Vanella

*Surface layer:*

0 to 6 inches—dark yellowish brown fine sandy loam

*Subsurface layer:*

6 to 16 inches—yellowish brown fine sandy loam

*Subsoil:*

16 to 33 inches—yellowish red loam

33 to 45 inches—red clay loam

45 to 62 inches—red very cobbly clay loam

### Minor Components

*Dissimilar components:*

- Carbo soils, which are moderately deep to bedrock; on adjacent hills and mountains
- Needmore soils, which are moderately deep to bedrock; on adjacent hills and mountains
- Nicelytown soils, which are moderately well drained; on stream terraces
- Oriskany soils, which have more rock fragments in the soil than the Tumbling and Vanella soils; in colluvial positions and drainageways
- Soils that are moderately well drained; in old colluvial positions
- Soils that have a cobbly surface layer; in old colluvial positions



*Similar components:*

- Groseclose soils, which formed from limestone and shale residual materials; on adjacent hills
- Murrill soils, which formed in loamy colluvial materials; in colluvial positions and drainageways
- Shottower soils, which formed in old alluvial materials; on stream terraces
- Soils that have a gravelly surface layer; in old colluvial positions
- Soils that are on slopes of less than 15 percent or more than 25 percent

**Soil Properties and Qualities**

**Tumbling**

*Available water capacity:* Moderate (about 6.7 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Old colluvium derived from sandstone, shale, siltstone, limestone, dolomitic limestone, quartzite, metasandstone, and phyllite

**Vanella**

*Available water capacity:* Moderate (about 7.6 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Old colluvium derived from sandstone, shale, siltstone, limestone, dolomitic limestone, quartzite, metasandstone, and phyllite

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 4e

*Virginia soil management group:* Tumbling—O; Vanella—L

*Hydric soil:* No

**67E—Tumbling-Vanella complex, 25 to 35 percent slopes**

**Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys and western flank of Northern Blue Ridge Mountains (MLRAs 147 and 130A)

*Landform:* Base of mountains

*Position on the landform:* Nose slopes and side slopes

### Map Unit Composition

*Note:* These Tumbling and Vanella soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Tumbling and similar soils: Typically 50 percent, ranging from about 40 to 60 percent

Vanella and similar soils: Typically 40 percent, ranging from about 30 to 50 percent

### Typical Profile

#### Tumbling

##### *Surface layer:*

0 to 5 inches—dark brown fine sandy loam

##### *Subsoil:*

5 to 12 inches—dark yellowish brown fine sandy loam

12 to 18 inches—strong brown sandy clay loam

18 to 31 inches—red clay

31 to 54 inches—red cobbly clay; red and brownish yellow lithochromic mottles

54 to 65 inches—red clay; red and brownish yellow lithochromic mottles

#### Vanella

##### *Surface layer:*

0 to 6 inches—dark yellowish brown fine sandy loam

##### *Subsurface layer:*

6 to 16 inches—yellowish brown fine sandy loam

##### *Subsoil:*

16 to 33 inches—yellowish red loam

33 to 45 inches—red clay loam

45 to 62 inches—red very cobbly clay loam

### Minor Components

#### *Dissimilar components:*

- Carbo soils, which are moderately deep to bedrock; on adjacent hills and mountains
- Needmore soils, which are moderately deep to bedrock; on adjacent hills and mountains
- Nicelytown soils, which are moderately well drained; on stream terraces
- Oriskany soils, which have more rock fragments in the soil than the Tumbling and Vanella soils; in colluvial positions and drainageways
- Soils that are moderately well drained; in old colluvial positions
- Soils that have a cobbly surface layer; in old colluvial positions

#### *Similar components:*

- Groseclose soils, which formed from limestone and shale residual materials; on adjacent hills
- Murrill soils, which formed in loamy colluvial materials; in colluvial positions and drainageways
- Shottower soils, which formed in old alluvial materials; on stream terraces
- Soils that have a gravelly surface layer; in old colluvial positions
- Soils that are on slopes of less than 25 percent or more than 35 percent

### Soil Properties and Qualities

#### Tumbling

*Available water capacity:* Moderate (about 6.7 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Old colluvium derived from sandstone, shale, siltstone, limestone, dolomitic limestone, quartzite, metasandstone, and phyllite

#### **Vanella**

*Available water capacity:* Moderate (about 7.6 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Old colluvium derived from sandstone, shale, siltstone, limestone, dolomitic limestone, quartzite, metasandstone, and phyllite

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 6e

*Virginia soil management group:* Tumbling—O; Vanella—L

*Hydric soil:* No

### **68D—Tumbling-Vanella-Urban land complex, 8 to 25 percent slopes**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys and western flank of Northern Blue Ridge Mountains (MLRAs 147 and 130A)

*Landform:* Urban or built-up areas at the base of mountains within the vicinity of the city of Buena Vista

*Position on the landform:* Nose slopes and side slopes

#### **Map Unit Composition**

*Note:* These Tumbling and Vanella soils and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Tumbling and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Vanella and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Urban land: Typically 25 percent, ranging from about 20 to 30 percent

#### **Typical Profile**

##### **Tumbling**

*Surface layer:*

0 to 5 inches—dark brown fine sandy loam

**Subsoil:**

- 5 to 12 inches—dark yellowish brown fine sandy loam
- 12 to 18 inches—strong brown sandy clay loam
- 18 to 31 inches—red clay
- 31 to 54 inches—red cobbly clay; red and brownish yellow lithochromic mottles
- 54 to 65 inches—red clay; red and brownish yellow lithochromic mottles

**Vanella**

**Surface layer:**

- 0 to 6 inches—dark yellowish brown fine sandy loam

**Subsurface layer:**

- 6 to 16 inches—yellowish brown fine sandy loam

**Subsoil:**

- 16 to 33 inches—yellowish red loam
- 33 to 45 inches—red clay loam
- 45 to 62 inches—red very cobbly clay loam

**Urban land**

This part of the map unit consists of areas covered by impervious surfaces such as asphalt roadways and parking lots, concrete structures, and buildings. A typical profile is not given because the original soils have been disturbed.

**Minor Components**

**Dissimilar components:**

- Litz soils, which are moderately deep to bedrock; on undisturbed hills
- Lostcove soils, which have more rock fragments in the soil than the Tumbling and Vanella soils; in undisturbed colluvial drainageways
- Nicelytown soils, which are moderately well drained; on undisturbed stream terraces
- Soils that have a cobbly surface layer; on undisturbed old colluvial positions
- Soils that have been disturbed by grading, cutting, and filling

**Similar components:**

- Groseclose soils, which formed in clayey residual materials; on undisturbed hills
- Shottower soils, which formed in old alluvium; on undisturbed stream terraces
- Soils that have a gravelly surface layer; on undisturbed old colluvial positions
- Soils that are deep to bedrock; on undisturbed old colluvial positions
- Soils that are on slopes of less than 8 percent or more than 25 percent

**Soil Properties and Qualities**

**Tumbling**

*Available water capacity:* Moderate (about 6.7 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Old colluvium derived from sandstone, shale, siltstone, limestone, dolomitic limestone, quartzite, metasandstone, and phyllite

**Vanella**

*Available water capacity:* Moderate (about 7.6 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Old colluvium derived from sandstone, shale, siltstone, limestone, dolomitic limestone, quartzite, metasandstone, and phyllite

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* Tumbling and Vanella—4e; Urban land—8

*Virginia soil management group:* Tumbling—O; Vanella—L; Urban land—none assigned

*Hydric soil:* Tumbling and Vanella—no; Urban land—unranked

**69A—Tygart-Purdy complex, 0 to 3 percent slopes**

**Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Depressions or backswamps on intermediate to high level stream terraces

*Position on the landform:* Treads

**Map Unit Composition**

*Note:* These Tygart and Purdy soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Tygart and similar soils: Typically 55 percent, ranging from about 50 to 60 percent

Purdy and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

**Typical Profile**

**Tygart**

*Surface layer:*

0 to 7 inches—brown silt loam

*Subsoil:*

7 to 12 inches—brown silty clay loam; yellowish brown masses of oxidized iron

12 to 17 inches—gray silty clay; yellowish brown masses of oxidized iron

17 to 24 inches—grayish brown clay; brownish yellow masses of oxidized iron

24 to 34 inches—gray clay; dark gray iron depletions; yellowish brown masses of oxidized iron

34 to 49 inches—variegated gray and light gray clay; red and yellowish brown masses of oxidized iron

*Substratum:*

49 to 65 inches—gray silty clay loam; yellowish brown masses of oxidized iron

**Purdy**

*Surface layer:*

0 to 7 inches—dark grayish brown silty clay loam

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### *Subsoil:*

- 7 to 11 inches—grayish brown silty clay loam
- 11 to 22 inches—gray clay; yellowish brown masses of oxidized iron
- 22 to 32 inches—dark gray clay; yellowish brown masses of oxidized iron

### *Substratum:*

- 32 to 47 inches—variegated gray and light gray clay loam
- 47 to 55 inches—light gray silty clay loam; light greenish gray iron depletions; strong brown masses of oxidized iron
- 55 to 65 inches—variegated gray and light gray clay loam; yellowish brown masses of oxidized iron

## Minor Components

### *Dissimilar components:*

- Nicelytown soils, which are moderately well drained; on old stream terraces

### *Similar components:*

- Soils that have a gravelly surface layer; on old stream terraces
- Soils that have less clay in the subsoil than the Tygart and Purdy soils; on old stream terraces
- Soils that are on slopes of more than 3 percent

## Soil Properties and Qualities

### **Tygart**

*Available water capacity:* Moderate (about 8.6 inches)

*Slowest saturated hydraulic conductivity:* Moderately low (about 0.06 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Somewhat poorly drained

*Depth to seasonal water saturation:* About 6 to 18 inches

*Water table kind:* Apparent

*Flooding hazard:* None

*Ponding hazard:* Occasional

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Old alluvium derived from sandstone, siltstone, and shale; limestone and dolomitic limestone to a lesser extent

### **Purdy**

*Available water capacity:* Moderate (about 7.9 inches)

*Slowest saturated hydraulic conductivity:* Moderately low (about 0.06 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Poorly drained

*Depth to seasonal water saturation:* About 0 to 12 inches

*Water table kind:* Apparent

*Flooding hazard:* None

*Ponding hazard:* Occasional

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Old alluvium derived from sandstone, siltstone, and shale; limestone and dolomitic limestone to a lesser extent



### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* 4w

*Virginia soil management group:* Tygart—Z; Purdy—NN

*Hydric soil:* Tygart—No; Purdy—yes

## 70—Udorthents, refuse substratum

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Area of county landfill on hills

### Map Unit Composition

Udorthents and similar soils: Typically 85 percent, ranging from about 70 to 100 percent

### General Description

This map unit consists of sanitary landfills used for the disposal of household and other general waste material. The waste material is commonly intermixed with soil material as it is placed and compacted into the landfill. A layer of soil material is typically placed on the surface as a final surface coating. The surface layer varies in thickness from a few inches to many feet and consists of loamy and clayey soil material with varying amounts of rock fragments, and may contain various types of artifacts. The surface soil is slightly compacted to severely compacted. Unvegetated areas are susceptible to severe erosion. Differential subsidence can occur in Udorthents. A typical profile is not given because the original soils have been disturbed.

### Minor Components

*Dissimilar components:*

- Shottower soils, which are very deep to bedrock; on undisturbed hills
- Tumbling soils, which are very deep to bedrock; on undisturbed hills
- Areas that have sinkholes

*Similar components:*

- Soils that are covered by less than 20 inches of waste material; on disturbed areas

## 71—Udorthents, smoothed-Urban land complex

### Setting

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Areas along interstate highways and urban or built-up areas on nearly level land and hills (fig. 17)

*Position on the landform:* Interfluves, nose slopes, and side slopes

### Map Unit Composition

*Note:* These areas occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Udorthents: Typically 50 percent, ranging from about 40 to 60 percent

Urban land: Typically 45 percent, ranging from about 40 to 50 percent



Figure 17.—An example of Udorthents, smoothed-Urban land complex.

### General Description

#### Udorthents

Udorthents consist of soil material that has been cut, filled, or otherwise disturbed during urbanization and highway construction and ultimately graded to a smooth surface. Udorthents are a variable mixture of soil textures, soil colors, rock fragment content, depth to bedrock, and drainage. Areas range from slightly to severely compacted. Unvegetated areas are susceptible to severe erosion. Differential subsidence can occur in Udorthents. A typical profile is not given because the original soils have been disturbed.

#### Urban land

This part of the map unit consists of areas covered by impervious surfaces such as asphalt roadways and parking lots, concrete structures, and buildings. A typical profile is not given because the original soils have been disturbed.

### Minor Components

#### *Dissimilar components:*

- Berks, Weikert, and Rough soils, which are moderately deep, shallow, and very shallow to bedrock, respectively; on undisturbed hills
- Carbo soils, which are moderately deep to bedrock; on undisturbed hills
- Frederick and Caneyville soils, which are very deep and moderately deep to bedrock, respectively; on undisturbed hills
- Needmore soils, which are moderately deep to bedrock; on undisturbed hills
- Opequon soils, which are shallow to bedrock; on undisturbed hills
- Shottower soils, which are very deep to bedrock; on undisturbed hills
- Slabtown soils, which are moderately well drained; in undisturbed local colluvial positions

- Soils that are poorly drained; in disturbed areas
- Areas of rock outcrop
- Areas that have sinkholes

*Similar components:*

- Soils that are covered by less than 20 inches of fill material; in disturbed areas

**Soil Properties and Qualities**

Properties and qualities are not measured because the original soils have been disturbed.

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* Udorthents—none assigned; Urban land—8

*Virginia soil management group:* None assigned

*Hydric soil:* Unranked

**72C—Unaka-Plott complex, 3 to 15 percent slopes, very stony**

**Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains at high elevations (fig. 18)

*Position on the landform:* Mountaintops



Figure 18.—An example of Unaka-Plott complex, 3 to 15 percent slopes, very stony. Mapped at the highest elevations in the Blue Ridge portion of the survey area, the dominant tree species are northern red oak, hickory, black cherry and white ash.



### Map Unit Composition

*Note:* These Unaka and Plott soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Unaka and similar soils: Typically 60 percent, ranging from about 55 to 65 percent

Plott and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

### Typical Profile

#### Unaka

##### *Organic layer:*

0 to 1 inch—moderately decomposed plant material

##### *Surface layer:*

1 to 10 inches—very dark brown gravelly loam

10 to 13 inches—very dark grayish brown gravelly loam

##### *Subsoil:*

13 to 27 inches—yellowish brown gravelly loam

##### *Bedrock:*

27 inches—hard charnockite

#### Plott

##### *Organic layer:*

0 to 1 inch—moderately decomposed plant material

##### *Surface layer:*

1 to 6 inches—very dark brown gravelly loam

6 to 12 inches—dark brown gravelly loam

##### *Subsoil:*

12 to 17 inches—dark yellowish brown gravelly loam

17 to 30 inches—yellowish brown gravelly loam

30 to 48 inches—yellowish brown gravelly loam

##### *Substratum:*

48 to 62 inches—yellowish brown very gravelly loam

### Minor Components

##### *Dissimilar components:*

- Peaks soils, which have more rock fragments throughout than the Unaka and Plott soils; on mountains
- Thunder soils, which formed in colluvial materials; in colluvial positions and drainageways
- Soils that have a nonstony or extremely stony surface; on mountains
- Areas of rock outcrop

##### *Similar components:*

- Edneytown soils, which have a thinner dark surface layer; on mountains
- Saunook soils, which formed in colluvial materials; in colluvial positions and drainageways
- Soils that have a zone of clay accumulation in the subsoil; on mountains
- Soils that are on slopes of less than 3 percent or more than 15 percent

### Soil Properties and Qualities

#### Unaka

*Available water capacity:* Low (about 3.5 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock, lithic

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from granite, granulite, and charnockite

#### **Plott**

*Available water capacity:* Moderate (about 7.4 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from granite, granulite, and charnockite

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 6s

*Virginia soil management group:* U

*Hydric soil:* No

### **72E—Unaka-Plott complex, 15 to 35 percent slopes, very stony**

#### **Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Mountains at high elevations

*Position on the landform:* Mountain flanks

#### **Map Unit Composition**

*Note:* These Unaka and Plott soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Unaka and similar soils: Typically 65 percent, ranging from about 60 to 70 percent

Plott and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

#### **Typical Profile**

##### **Unaka**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 10 inches—very dark brown gravelly loam

10 to 13 inches—very dark grayish brown gravelly loam

*Subsoil:*

13 to 27 inches—yellowish brown gravelly loam

*Bedrock:*

27 inches—hard charnockite

**Plott**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 6 inches—very dark brown gravelly loam

6 to 12 inches—dark brown gravelly loam

*Subsoil:*

12 to 17 inches—dark yellowish brown gravelly loam

17 to 30 inches—yellowish brown gravelly loam

30 to 48 inches—yellowish brown gravelly loam

*Substratum:*

48 to 62 inches—yellowish brown very gravelly loam

**Minor Components**

*Dissimilar components:*

- Peaks soils, which have more rock fragments throughout than the Unaka and Plott soils; on mountains
- Thunder soils, which formed in colluvial materials; in colluvial positions and drainageways
- Soils that have a nonstony or extremely stony surface; on mountains
- Areas of rock outcrop

*Similar components:*

- Edneytown soils, which have a thinner dark surface layer; on mountains
- Saunook soils, which formed in colluvial materials; in colluvial positions and drainageways
- Soils that have a zone of clay accumulation in the subsoil; on mountains
- Soils that are on slopes of less than 15 percent or more than 35 percent

**Soil Properties and Qualities**

**Unaka**

*Available water capacity:* Low (about 3.5 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock, lithic

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from granite, granulite, and charnockite

**Plott**

*Available water capacity:* Moderate (about 7.4 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover



*Rockiness:* None

*Parent material:* Residuum weathered from granite, granulite, and charnockite

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7s

*Virginia soil management group:* U

*Hydric soil:* No

### **73C—Vanella-Tumbling complex, 3 to 15 percent slopes, very stony**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys and western flank of Northern Blue Ridge Mountains (MLRAs 147 and 130A) (MLRA 147)

*Landform:* Base of mountains

*Position on the landform:* Nose slopes and side slopes

#### **Map Unit Composition**

*Note:* These Vanella and Tumbling soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Vanella and similar soils: Typically 50 percent, ranging from about 40 to 60 percent

Tumbling and similar soils: Typically 40 percent, ranging from about 30 to 50 percent

#### **Typical Profile**

##### **Vanella**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 4 inches—very dark brown cobbly fine sandy loam

*Subsurface layer:*

4 to 7 inches—dark yellowish brown cobbly fine sandy loam

*Subsoil:*

7 to 24 inches—yellowish brown gravelly fine sandy loam

24 to 32 inches—strong brown gravelly loam

32 to 51 inches—yellowish red cobbly clay loam

51 to 65 inches—red cobbly clay loam

##### **Tumbling**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 5 inches—dark brown cobbly fine sandy loam

*Subsurface layer:*

5 to 7 inches—dark yellowish brown gravelly loam

*Subsoil:*

15 to 30 inches—yellowish red clay

30 to 62 inches—yellowish red cobbly clay; yellowish brown, red and strong brown lithochromic mottles

62 to 65 inches—yellowish red very stony clay; yellowish brown, red and strong brown lithochromic mottles

### Minor Components

#### *Dissimilar components:*

- Carbo soils, which are moderately deep to bedrock; on adjacent hills and mountains
- Needmore soils, which are moderately deep to bedrock; on adjacent hills and mountains
- Nicelytown soils, which are moderately well drained; on stream terraces
- Oriskany soils, which have more rock fragments in the soil than the Vanella and Tumbling soils; in colluvial positions and drainageways
- Soils that are moderately well drained; in old colluvial positions
- Soils that have a nonstony surface; on mountains

#### *Similar components:*

- Groseclose soils, which formed from limestone and shale residual materials; on adjacent hills
- Murrill soils, which formed in loamy colluvial materials; in colluvial positions and drainageways
- Shottower soils, which formed in old alluvial materials; on stream terraces
- Soils that have a gravelly surface layer; in old colluvial positions
- Soils that are on slopes of less than 3 percent or more than 15 percent

### Soil Properties and Qualities

#### **Vanella**

*Available water capacity:* Moderate (about 7.1 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Old colluvium derived from sandstone, shale, siltstone, limestone, dolomitic limestone, quartzite, metasandstone, and phyllite

#### **Tumbling**

*Available water capacity:* Moderate (about 6.9 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Old colluvium derived from sandstone, shale, siltstone, limestone, dolomitic limestone, quartzite, metasandstone, and phyllite

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* 6s

*Virginia soil management group:* Vanella—L; Tumbling—O

*Hydric soil:* No

## **73E—Vanella-Tumbling complex, 15 to 35 percent slopes, very stony**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys and western flank of Northern Blue Ridge Mountains (MLRAs 147 and 130A) (MLRA 147)

*Landform:* Base of mountains (fig. 19)

*Position on the landform:* Nose slopes and side slopes

### **Map Unit Composition**

*Note:* These Vanella and Tumbling soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Vanella and similar soils: Typically 50 percent, ranging from about 40 to 60 percent

Tumbling and similar soils: Typically 40 percent, ranging from about 30 to 50 percent

### **Typical Profile**

#### **Vanella**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 4 inches—very dark brown cobbly fine sandy loam

*Subsurface layer:*

4 to 7 inches—dark yellowish brown cobbly fine sandy loam

*Subsoil:*

7 to 24 inches—yellowish brown gravelly fine sandy loam

24 to 32 inches—strong brown gravelly loam

32 to 51 inches—yellowish red cobbly clay loam

51 to 65 inches—red cobbly clay loam

#### **Tumbling**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 5 inches—dark brown cobbly fine sandy loam

*Subsurface layer:*

5 to 7 inches—dark yellowish brown gravelly loam

*Subsoil:*

15 to 30 inches—yellowish red clay

30 to 62 inches—yellowish red cobbly clay; yellowish brown, red and strong brown lithochromic mottles

62 to 65 inches—yellowish red very stony clay; yellowish brown, red and strong brown lithochromic mottles

### **Minor Components**

*Dissimilar components:*

- Carbo soils, which are moderately deep to bedrock; on adjacent hills and mountains
- Needmore soils, which are moderately deep to bedrock; on adjacent hills and mountains
- Nicelytown soils, which are moderately well drained; on stream terraces
- Oriskany soils, which have more rock fragments in the soil than the Vanella and Tumbling soils; in colluvial positions and drainageways





**Figure 19.—An example of Vanella-Tumbling complex, 15 to 35 percent slopes, very stony. These are the oldest colluvial soils in the survey area typically supporting tree species such as chestnut oak, scarlet oak and pine.**

- Soils that are moderately well drained; in old colluvial positions
- Soils that have a nonstony surface; in old colluvial positions

*Similar components:*

- Groseclose soils, which formed from limestone and shale residual materials; on adjacent hills

- Murrill soils, which formed in loamy colluvial materials; in colluvial positions and drainageways
- Shottower soils, which formed in old alluvial materials; on stream terraces
- Soils that have a gravelly surface layer; in old colluvial positions
- Soils that are on slopes of less than 15 percent or more than 35 percent

### **Soil Properties and Qualities**

#### **Vanella**

*Available water capacity:* Moderate (about 7.1 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Old colluvium derived from sandstone, shale, siltstone, limestone, dolomitic limestone, quartzite, metasandstone, and phyllite

#### **Tumbling**

*Available water capacity:* Moderate (about 6.9 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Old colluvium derived from sandstone, shale, siltstone, limestone, dolomitic limestone, quartzite, metasandstone, and phyllite

### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7s

*Virginia soil management group:* Vanella—L; Tumbling—O

*Hydric soil:* No

## **74C—Watahala-Frederick complex, 8 to 15 percent slopes, very stony**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills

*Position on the landform:* Interfluves

### **Map Unit Composition**

*Note:* These Watahala and Frederick soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

## Soil Survey of Rockbridge County, Virginia

Watahala and similar soils: Typically 60 percent, ranging from about 50 to 65 percent  
Frederick and similar soils: Typically 30 percent, ranging from about 20 to 40 percent

### Typical Profile

#### Watahala

##### *Organic layer:*

0 to 2 inches—moderately decomposed plant material

##### *Surface layer:*

2 to 3 inches—very dark grayish brown cobbly loam

##### *Subsurface layer:*

3 to 13 inches—light yellowish brown gravelly loam

##### *Subsoil:*

13 to 21 inches—brownish yellow gravelly loam

21 to 25 inches—variegated reddish yellow and strong brown gravelly clay loam

25 to 48 inches—variegated red and brownish yellow cobbly clay

48 to 62 inches—variegated red and brownish yellow cobbly clay

#### Frederick

##### *Organic layer:*

0 to 1 inch—moderately decomposed plant material

##### *Surface layer:*

1 to 2 inches—brown cobbly loam

##### *Subsurface layer:*

2 to 6 inches—pale brown gravelly loam

##### *Subsoil:*

6 to 10 inches—brownish yellow loam

10 to 15 inches—strong brown silty clay loam

15 to 36 inches—yellowish red clay

36 to 62 inches—yellowish red clay

### Minor Components

##### *Dissimilar components:*

- Caneyville soils, which are moderately deep to bedrock; on hills
- Slabtown soils, which are moderately well drained; in local colluvial positions
- Soils that are moderately deep to bedrock that have more than 35 percent chert fragments throughout; on hills
- Areas with a nonstony surface; on hills
- Areas of rock outcrop
- Areas that have sinkholes

##### *Similar components:*

- Lodi soils, which have less clay in the lower part of the profile than the Watahala and Frederick soils; on hills
- Soils that are deep to bedrock; on hills
- Soils that have less gravel or cobbles in the surface layer; on hills
- Soils that are on slopes of less than 8 percent or more than 15 percent

### Soil Properties and Qualities

#### Watahala

*Available water capacity:* Moderate (about 6.8 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* 20 to 50 inches to strongly contrasting textural stratification

*Drainage class:* Well drained



*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* Moderate  
*Surface fragments (stone and/or boulder size):* About 0.10 to 3.00 percent surface cover  
*Rockiness:* None  
*Parent material:* Gravelly residuum over clayey residuum weathered from cherty limestone and cherty dolomitic limestone

**Frederick**

*Available water capacity:* Moderate (about 6.9 inches)  
*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)  
*Depth class:* Very deep (more than 60 inches)  
*Depth to root-restrictive feature:* More than 60 inches  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* Moderate  
*Surface fragments (stone and/or boulder size):* About 0.10 to 3.00 percent surface cover  
*Rockiness:* None  
*Parent material:* Residuum weathered from limestone, cherty limestone, and dolomitic limestone

**Interpretive Groups**

*Prime farmland:* Not prime farmland  
*Land capability class:* 6s  
*Virginia soil management group:* M  
*Hydric soil:* No

**74E—Watahala-Frederick complex, 15 to 35 percent slopes, very stony**

**Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)  
*Landform:* Hills  
*Position on the landform:* Interfluves and side slopes

**Map Unit Composition**

*Note:* These Watahala and Frederick soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Watahala and similar soils: Typically 50 percent, ranging from about 40 to 60 percent  
Frederick and similar soils: Typically 35 percent, ranging from about 25 to 45 percent

**Typical Profile**

**Watahala**

*Organic layer:*  
0 to 2 inches—moderately decomposed plant material  
*Surface layer:*  
2 to 3 inches—very dark grayish brown cobbly loam  
*Subsurface layer:*  
3 to 13 inches—light yellowish brown gravelly loam

## Soil Survey of Rockbridge County, Virginia

### *Subsoil:*

- 13 to 21 inches—brownish yellow gravelly loam
- 21 to 25 inches—variegated reddish yellow and strong brown gravelly clay loam
- 25 to 48 inches—variegated red and brownish yellow cobbly clay
- 48 to 62 inches—variegated red and brownish yellow cobbly clay

### **Frederick**

#### *Organic layer:*

- 0 to 1 inch—moderately decomposed plant material

#### *Surface layer:*

- 1 to 2 inches—brown cobbly loam

#### *Subsurface layer:*

- 2 to 6 inches—pale brown gravelly loam

#### *Subsoil:*

- 6 to 10 inches—brownish yellow loam
- 10 to 15 inches—strong brown silty clay loam
- 15 to 36 inches—yellowish red clay
- 36 to 62 inches—yellowish red clay

### **Minor Components**

#### *Dissimilar components:*

- Caneyville soils, which are moderately deep to bedrock; on hills
- Slabtown soils, which are moderately well drained; in local colluvial positions
- Soils that are moderately deep to bedrock that have more than 35 percent chert fragments throughout; on hills
- Areas with a nonstony surface; on hills
- Areas of rock outcrop
- Areas that have sinkholes

#### *Similar components:*

- Lodi soils, which have less clay in the lower part of the profile than the Watahala and Frederick soils; on hills
- Soils that are deep to bedrock; on hills
- Soils that have less gravel or cobbles in the surface layer; on hills
- Soils that are on slopes of less than 15 percent or more than 35 percent

### **Soil Properties and Qualities**

#### **Watahala**

*Available water capacity:* Moderate (about 6.8 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* 20 to 50 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* About 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Gravelly residuum over clayey residuum weathered from cherty limestone and cherty dolomitic limestone

**Frederick**

*Available water capacity:* Moderate (about 6.9 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* About 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, cherty limestone, and dolomitic limestone

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7s

*Virginia soil management group:* M

*Hydric soil:* No

**74F—Watahala-Frederick complex, 35 to 55 percent slopes, very stony**

**Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills

*Position on the landform:* Side slopes

**Map Unit Composition**

*Note:* These Watahala and Frederick soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Watahala and similar soils: Typically 60 percent, ranging from about 50 to 70 percent

Frederick and similar soils: Typically 20 percent, ranging from about 15 to 30 percent

**Typical Profile**

**Watahala**

*Organic layer:*

0 to 2 inches—moderately decomposed plant material

*Surface layer:*

2 to 3 inches—very dark grayish brown cobbly loam

*Subsurface layer:*

3 to 13 inches—light yellowish brown gravelly loam

*Subsoil:*

13 to 21 inches—brownish yellow gravelly loam

21 to 25 inches—variegated reddish yellow and strong brown gravelly clay loam

25 to 48 inches—variegated red and brownish yellow cobbly clay

48 to 62 inches—variegated red and brownish yellow cobbly clay

**Frederick**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 2 inches—brown cobbly loam

*Subsurface layer:*

2 to 6 inches—pale brown gravelly loam

*Subsoil:*

6 to 10 inches—brownish yellow loam

10 to 15 inches—strong brown silty clay loam

15 to 36 inches—yellowish red clay

36 to 62 inches—yellowish red clay

**Minor Components**

*Dissimilar components:*

- Caneyville soils, which are moderately deep to bedrock; on hills
- Opequon soils, which are shallow to bedrock; on hills
- Slabtown soils, which are moderately well drained; in local colluvial positions
- Soils that are moderately deep to bedrock that have more than 35 percent chert fragments throughout; on hills
- Areas with a nonstony surface; on hills
- Areas of rock outcrop
- Areas that have sinkholes

*Similar components:*

- Lodi soils, which have less clay in the lower part of the profile than the Watahala and Frederick soils; on hills
- Soils that are deep to bedrock; on hills
- Soils that have less gravel or cobbles in the surface layer; on hills
- Soils that are on slopes of less than 35 percent or more than 55 percent

**Soil Properties and Qualities**

**Watahala**

*Available water capacity:* Moderate (about 6.8 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.20 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* 20 to 50 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* About 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Gravelly residuum over clayey residuum weathered from cherty limestone and cherty dolomitic limestone

**Frederick**

*Available water capacity:* Moderate (about 6.9 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* About 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Residuum weathered from limestone, cherty limestone, and dolomitic limestone

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7e

*Virginia soil management group:* M

*Hydric soil:* No

## **75E—Weikert-Berks-Rough complex, 15 to 35 percent slopes**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills and mountains

*Position on the landform:* Side slopes, crests, and mountain flanks

### **Map Unit Composition**

*Note:* These Weikert, Berks, and Rough soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Weikert and similar soils: Typically 45 percent, ranging from about 40 to 50 percent

Berks and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Rough and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

### **Typical Profile**

#### **Weikert**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 2 inches—dark brown channery silt loam

*Subsurface layer:*

2 to 4 inches—yellowish brown channery silt loam

*Subsoil:*

4 to 9 inches—yellowish brown very channery silt loam

9 to 14 inches—yellowish brown very channery silt loam

*Substratum:*

14 to 17 inches—yellowish brown extremely channery silt loam

*Bedrock:*

17 inches— fissile acid shale

#### **Berks**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 3 inches—very dark grayish brown channery silt loam

*Subsurface layer:*

3 to 5 inches—yellowish brown channery silt loam

*Subsoil:*

5 to 9 inches—yellowish brown channery silt loam

9 to 27 inches—yellowish brown very channery silt loam

*Substratum:*

27 to 30 inches—yellowish brown extremely channery silt loam

*Bedrock:*

30 inches— fissile acid shale

**Rough**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 2 inches—very dark grayish brown very channery silt loam

*Subsoil:*

2 to 5 inches—yellowish brown very channery silt loam

*Substratum:*

5 to 7 inches—yellowish brown extremely channery silt loam

*Bedrock:*

7 inches— fissile acid shale

**Minor Components**

*Dissimilar components:*

- Soils that are very deep to bedrock and have fewer rock fragments throughout than the Weikert, Berks, and Rough soils; in colluvial positions
- Oriskany soils, which are very deep to bedrock; in colluvial positions
- Escatawba soils, which are very deep to bedrock; in old colluvial positions
- Soils that are moderately well drained; on hills and mountains
- Derroc soils, which are occasionally flooded; on flood plains
- Soils that have a very stony surface; on hills and mountains
- Areas of rock outcrop

*Similar components:*

- Soils that have fewer rock fragments in the subsoil; on hills and mountains
- Soils that have a redder subsoil; on hills and mountains
- Soils that are deep to bedrock; on hills and mountains
- Soils that are on slopes of less than 15 percent or more than 35 percent

**Soil Properties and Qualities**

**Weikert**

*Available water capacity:* Very low (about 1.8 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Shallow (10 to 20 inches)

*Depth to root-restrictive feature:* 10 to 20 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from acid shale and siltstone

**Berks**

*Available water capacity:* Low (about 4.0 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Moderately deep (20 to 40 inches)

*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet



*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from acid shale and siltstone

#### **Rough**

*Available water capacity:* Very low (about 0.6 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Very shallow (less than 10 inches)

*Depth to root-restrictive feature:* 4 to 10 inches to bedrock (lithic)

*Drainage class:* Somewhat excessively drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Residuum weathered from acid shale and siltstone

#### **Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 6e

*Virginia soil management group:* JJ

*Hydric soil:* No

## **75F—Weikert-Berks-Rough complex, 35 to 70 percent slopes**

#### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Hills and mountains

*Position on the landform:* Side slopes, crests, and mountain flanks

#### **Map Unit Composition**

*Note:* These Weikert, Berks, and Rough soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Weikert and similar soils: Typically 45 percent, ranging from about 40 to 50 percent

Berks and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Rough and similar soils: Typically 15 percent, ranging from about 10 to 20 percent

#### **Typical Profile**

##### **Weikert**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 2 inches—dark brown channery silt loam

*Subsurface layer:*

2 to 4 inches—yellowish brown channery silt loam

*Subsoil:*

4 to 9 inches—yellowish brown very channery silt loam

9 to 14 inches—yellowish brown very channery silt loam

*Substratum:*

14 to 17 inches—yellowish brown extremely channery silt loam

*Bedrock:*

17 inches— fissile acid shale

**Berks**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 3 inches—very dark grayish brown channery silt loam

*Subsurface layer:*

3 to 5 inches—yellowish brown channery silt loam

*Subsoil:*

5 to 9 inches—yellowish brown channery silt loam

9 to 27 inches—yellowish brown very channery silt loam

*Substratum:*

27 to 30 inches—yellowish brown extremely channery silt loam

*Bedrock:*

30 inches—fissile acid shale

**Rough**

*Organic layer:*

0 to 1 inch—moderately decomposed plant material

*Surface layer:*

1 to 2 inches—very dark grayish brown very channery silt loam

*Subsoil:*

2 to 5 inches—yellowish brown very channery silt loam

*Substratum:*

5 to 7 inches—yellowish brown extremely channery silt loam

*Bedrock:*

7 inches— fissile acid shale

**Minor Components**

*Dissimilar components:*

- Soils that are very deep to bedrock and have fewer rock fragments throughout than the Weikert, Berks, and Rough soils; in colluvial positions
- Oriskany soils, which are very deep to bedrock; in colluvial positions
- Escatawba soils, which are very deep to bedrock; in old colluvial positions
- Soils that are moderately well drained; on hills and mountains
- Derroc soils, which are occasionally flooded; on flood plains
- Soils that have a very stony surface; on hills and mountains
- Areas of rock outcrop

*Similar components:*

- Soils that have fewer rock fragments in the subsoil; on hills and mountains
- Soils that have a redder subsoil; on hills and mountains
- Soils that are deep to bedrock; on hills and mountains
- Soils that are on slopes of less than 35 percent or more than 70 percent

**Soil Properties and Qualities**

**Weikert**

*Available water capacity:* Very low (about 1.8 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Shallow (10 to 20 inches)

*Depth to root-restrictive feature:* 10 to 20 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* Low  
*Surface fragments (stone and/or boulder size):* None  
*Rockiness:* None  
*Parent material:* Residuum weathered from acid shale and siltstone

**Berks**

*Available water capacity:* Low (about 4.0 inches)  
*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)  
*Depth class:* Moderately deep (20 to 40 inches)  
*Depth to root-restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* Low  
*Surface fragments (stone and/or boulder size):* None  
*Rockiness:* None  
*Parent material:* Residuum weathered from acid shale and siltstone

**Rough**

*Available water capacity:* Very low (about 0.6 inches)  
*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)  
*Depth class:* Very shallow (less than 10 inches)  
*Depth to root-restrictive feature:* 4 to 10 inches to bedrock (lithic)  
*Drainage class:* Somewhat excessively drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Flooding hazard:* None  
*Ponding hazard:* None  
*Shrink-swell potential:* Low  
*Surface fragments (stone and/or boulder size):* None  
*Rockiness:* None  
*Parent material:* Residuum weathered from acid shale and siltstone

**Interpretive Groups**

*Prime farmland:* Not prime farmland  
*Land capability class:* 7e  
*Virginia soil management group:* JJ  
*Hydric soil:* No

**76G—Weikert-Rough-Rock outcrop complex, 70 to 100 percent slopes**

**Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)  
*Landform:* Hills and mountains  
*Position on the landform:* Extremely steep to near-vertical cliffs along major streams and rivers underlain by acid shale and siltstone

**Map Unit Composition**

*Note:* These Weikert and Rough soils and Rock outcrop occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

## Soil Survey of Rockbridge County, Virginia

Weikert and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Rough and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Rock outcrop: Typically 25 percent, ranging from about 15 to 40 percent

### Typical Profile

#### **Weikert**

##### *Organic layer:*

0 to 1 inch—moderately decomposed plant material

##### *Surface layer:*

1 to 2 inches—dark brown channery silt loam

##### *Subsurface layer:*

2 to 4 inches—yellowish brown channery silt loam

##### *Subsoil:*

4 to 9 inches—yellowish brown very channery silt loam

9 to 14 inches—yellowish brown very channery silt loam

##### *Substratum:*

14 to 17 inches—yellowish brown extremely channery silt loam

##### *Bedrock:*

17 inches—fissile acid shale

#### **Rough**

##### *Organic layer:*

0 to 1 inch—moderately decomposed plant material

##### *Surface layer:*

1 to 2 inches—very dark grayish brown very channery silt loam

##### *Subsoil:*

2 to 5 inches—yellowish brown very channery silt loam

##### *Substratum:*

5 to 7 inches—yellowish brown extremely channery silt loam

##### *Bedrock:*

7 inches—fissile acid shale

#### **Rock outcrop**

This part of the map unit consists of outcrop of acid shale and siltstone bedrock that form extremely steep to near-vertical cliffs

### Minor Components

##### *Dissimilar components:*

- Soils that are very deep to bedrock; at the base of cliffs along streams and rivers

##### *Similar components:*

- Berks soils, which are moderately deep to bedrock; on hills and mountains
- Soils that are on slopes of less than 70 percent or more than 100 percent

### Soil Properties and Qualities

#### **Weikert**

*Available water capacity:* Very low (about 1.8 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Shallow (10 to 20 inches)

*Depth to root-restrictive feature:* 10 to 20 inches to bedrock (lithic)

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness*: 15 to 40 percent rock outcrop

*Parent material*: Residuum weathered from acid shale and siltstone

**Rough**

*Available water capacity*: Very low (about 0.6 inches)

*Slowest saturated hydraulic conductivity*: High (about 1.98 in./hr.)

*Depth class*: Very shallow (less than 10 inches)

*Depth to root-restrictive feature*: 4 to 10 inches to bedrock (lithic)

*Drainage class*: Somewhat excessively drained

*Depth to seasonal water saturation*: More than 6 feet

*Flooding hazard*: None

*Ponding hazard*: None

*Shrink-swell potential*: Low

*Surface fragments (stone and/or boulder size)*: None

*Rockiness*: 15 to 40 percent rock outcrop

*Parent material*: Residuum weathered from acid shale and siltstone

**Interpretive Groups**

*Prime farmland*: Not prime farmland

*Land capability class*: Weikert and Rough—7s; Rock outcrop—8

*Virginia soil management group*: Weikert and Rough—JJ; Rock outcrop—none assigned

*Hydric soil*: No

**77C—Wintergreen loam, 8 to 15 percent slopes**

**Setting**

*Major land resource area(s)*: Northern Blue Ridge (MLRA 130A)

*Landform*: Base of mountains

*Position on the landform*: Nose slopes and side slopes on mountain bases

**Map Unit Composition**

Wintergreen and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

**Typical Profile**

*Surface layer*:

0 to 3 inches—brown loam

*Subsurface layer*:

3 to 7 inches—strong brown loam

*Subsoil*:

7 to 24 inches—red clay

24 to 35 inches—red clay

35 to 62 inches—red clay; strong brown and pinkish white lithochromic mottles

**Minor Components**

*Dissimilar components*:

- Lostcove soils, which have more rock fragments throughout than the Wintergreen soil; in colluvial positions and drainageways
- Saunook soils, which have a thick dark surface layer and less clay in the subsoil; in colluvial positions and drainageways
- Thunder soils, which have a thick dark surface layer and less clay in the subsoil; in colluvial positions and drainageways
- Soils that have a very stony surface; in old colluvial positions

*Similar components:*

- Edneytown soils, which formed from granitic residual materials; on adjacent mountains
- Groseclose soils, which formed from limestone and shale residual materials; on adjacent hills
- Soils that are on slopes of less than 8 percent or more than 15 percent

**Soil Properties and Qualities**

*Available water capacity:* High (about 9.1 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Old colluvium derived from granite, granulite, and charnockite

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 3e

*Virginia soil management group:* O

*Hydric soil:* No

**77D—Wintergreen loam, 15 to 25 percent slopes**

**Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Base of mountains

*Position on the landform:* Nose slopes and side slopes on mountain bases

**Map Unit Composition**

Wintergreen and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

**Typical Profile**

*Surface layer:*

0 to 3 inches—brown loam

*Subsurface layer:*

3 to 7 inches—strong brown loam

*Subsoil:*

7 to 24 inches—red clay

24 to 35 inches—red clay

35 to 62 inches—red clay; strong brown and pinkish white lithochromic mottles

**Minor Components**

*Dissimilar components:*

- Lostcove soils, which have more rock fragments throughout than the Wintergree soil; in colluvial positions and drainageways



- Saunook soils, which have a thick dark surface layer and less clay in the subsoil; in colluvial positions and drainageways
- Thunder soils, which have a thick dark surface layer and less clay in the subsoil; in colluvial positions and drainageways
- Soils that have a very stony surface; in old colluvial positions

*Similar components:*

- Edneytown soils, which formed from granitic residual materials; on adjacent mountains
- Groseclose soils, which formed from limestone and shale residual materials; on adjacent hills
- Soils that are on slopes of less than 15 percent or more than 25 percent

**Soil Properties and Qualities**

*Available water capacity:* High (about 9.1 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Old colluvium derived from granite, granulite, and charnockite

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 4e

*Virginia soil management group:* O

*Hydric soil:* No

**77E—Wintergreen loam, 25 to 35 percent slopes**

**Setting**

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Base of mountains

*Position on the landform:* Nose slopes and side slopes on mountain bases

**Map Unit Composition**

Wintergreen and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

**Typical Profile**

*Surface layer:*

0 to 3 inches—brown loam

*Subsurface layer:*

3 to 7 inches—strong brown loam

*Subsoil:*

7 to 24 inches—red clay

24 to 35 inches—red clay

35 to 62 inches—red clay; strong brown and pinkish white lithochromic mottles

### Minor Components

*Dissimilar components:*

- Lostcove soils, which have more rock fragments throughout than the Wintergreen soil; in colluvial positions and drainageways
- Saunook soils, which have a thick dark surface layer and less clay in the subsoil; in colluvial positions and drainageways
- Thunder soils, which have a thick dark surface layer and less clay in the subsoil; in colluvial positions and drainageways
- Soils that have a very stony surface; in old colluvial positions

*Similar components:*

- Edneytown soils, which formed from granitic residual materials; on adjacent mountains
- Groseclose soils, which formed from limestone and shale residual materials; on adjacent hills
- Soils that are on slopes of less than 25 percent or more than 35 percent

### Soil Properties and Qualities

*Available water capacity:* High (about 9.1 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Old colluvium derived from granite, granulite, and charnockite

### Interpretive Groups

*Prime farmland:* Not prime farmland

*Land capability class:* 6e

*Virginia soil management group:* O

*Hydric soil:* No

## 78E—Wintergreen loam, 15 to 35 percent slopes, very stony

### Setting

*Major land resource area(s):* Northern Blue Ridge (MLRA 130A)

*Landform:* Base of mountains

*Position on the landform:* Nose slopes and side slopes on mountain bases

### Map Unit Composition

Wintergreen and similar soils: Typically 85 percent, ranging from about 85 to 95 percent

### Typical Profile

*Surface layer:*

0 to 3 inches—brown loam

*Subsurface layer:*

3 to 7 inches—strong brown loam

*Subsoil:*

7 to 24 inches—red clay

24 to 35 inches—red clay

35 to 62 inches—red clay; strong brown and pinkish white lithochromic mottles

**Minor Components**

*Dissimilar components:*

- Lostcove soils, which have more rock fragments throughout than the Wintergreen soil; in colluvial positions and drainageways
- Saunook soils, which have a thick dark surface layer and less clay in the subsoil; in colluvial positions and drainageways
- Thunder soils, which have a thick dark surface layer and less clay in the subsoil; in colluvial positions and drainageways
- Soils that have a nonstony surface; in old colluvial positions

*Similar components:*

- Edneytown soils, which formed from granitic residual materials; on adjacent mountains
- Groseclose soils, which formed from limestone and shale residual materials; on adjacent hills
- Soils that are on slopes of less than 15 percent or more than 35 percent

**Soil Properties and Qualities**

*Available water capacity:* High (about 9.1 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* None

*Ponding hazard:* None

*Shrink-swell potential:* Moderate

*Surface fragments (stone and/or boulder size):* 0.10 to 3.00 percent surface cover

*Rockiness:* None

*Parent material:* Old colluvium derived from granite, granulite, and charnockite

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* 7s

*Virginia soil management group:* O

*Hydric soil:* No

**79A—Wolfgap loam, 0 to 3 percent slopes, rarely flooded**

**Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Flood plains along rivers mainly underlain by limestone and dolomitic limestone

*Position on the landform:* Treads

### Map Unit Composition

Wolfgap and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

### Typical Profile

*Surface layer:*

0 to 13 inches—very dark grayish brown loam

13 to 22 inches—dark brown loam

*Subsoil:*

22 to 52 inches—dark yellowish brown loam

*Substratum:*

52 to 65 inches—brown gravelly sandy loam

### Minor Components

*Dissimilar components:*

- Botetourt soils, which are moderately well drained; on low stream terraces
- Derroc soils, which have more rock fragments throughout and flood more frequently than the Wolfgap soil; on flood plains
- Holly soils, which are poorly drained; on flood plains
- Irongate soils, which are moderately well drained; on flood plains
- Orrville soils, which are somewhat poorly drained; on flood plains
- Soils that do not have a thick dark surface layer; on flood plains landforms
- Soils that have a cobbly surface layer; on flood plains

*Similar components:*

- Gladehill soils, which are well drained and flood more frequently; on flood plains
- Ingledove soils, which are well drained; on low stream terraces
- Soils that have a gravelly surface layer; on flood plains
- Soils that are on slopes of more than 3 percent

### Soil Properties and Qualities

*Available water capacity:* High (about 11.1 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* Rare

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

### Interpretive Groups

*Prime farmland:* All areas are prime farmland

*Land capability class:* 1

*Virginia soil management group:* A

*Hydric soil:* No

## **80A—Wolfgap-Derroc-Urban land complex, 0 to 3 percent slopes, rarely flooded**

### **Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

*Landform:* Urban or built-up areas on flood plains along the Maury River and James River within the vicinity of the city of Buena Vista and the town of Glasgow

*Position on the landform:* Treads

### **Map Unit Composition**

*Note:* These Wolfgap and Derroc soils and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Wolfgap and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Derroc and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Urban land: Typically 25 percent, ranging from about 20 to 30 percent

### **Typical Profile**

#### **Wolfgap**

*Surface layer:*

0 to 13 inches—very dark grayish brown loam

13 to 22 inches—dark brown loam

*Subsoil:*

22 to 52 inches—dark yellowish brown loam

*Substratum:*

52 to 65 inches—brown gravelly sandy loam

#### **Derroc**

*Surface layer:*

0 to 3 inches—dark yellowish brown very cobbly sandy loam

3 to 9 inches—dark brown cobbly sandy loam

*Subsoil:*

9 to 27 inches—dark yellowish brown very cobbly sandy loam

27 to 33 inches—dark yellowish brown very cobbly loam

*Substratum:*

33 to 63 inches—dark yellowish brown very cobbly loamy sand

#### **Urban land**

This part of the map unit consists of areas covered by impervious surfaces such as asphalt roadways and parking lots, concrete structures, and buildings. A typical profile is not given because the original soils have been disturbed.

### **Minor Components**

*Dissimilar components:*

- Botetourt soils, which are moderately well drained; on undisturbed stream terraces
- Holly soils, which are poorly drained; on undisturbed flood plains
- Ingledove soils, which have clay accumulation in the subsoil; on undisturbed stream terraces
- Irongate soils, which are moderately well drained; on undisturbed flood plains
- Orrville soils, which are somewhat poorly drained; on undisturbed flood plains
- Soils that do not have a thick dark surface layer; on undisturbed flood plains
- Soils that have a cobbly surface layer; on undisturbed flood plains
- Soils that have been disturbed by grading, cutting, and filling

*Similar components:*

- Gladehill soils, which are well drained and flood more frequently than the Wolfgap and Derroc soils; on undisturbed flood plains
- Ingledove soils, which are well drained; on undisturbed stream terraces
- Soils that have a gravelly surface layer; on undisturbed flood plains
- Soils that are on slopes of more than 3 percent

**Soil Properties and Qualities**

**Wolfgap**

*Available water capacity:* High (about 11.1 inches)

*Slowest saturated hydraulic conductivity:* Moderately high (about 0.57 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* Rare

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

**Derroc**

*Available water capacity:* Low (about 5.1 inches)

*Slowest saturated hydraulic conductivity:* High (about 1.98 in./hr.)

*Depth class:* Very deep (more than 60 inches)

*Depth to root-restrictive feature:* More than 60 inches

*Drainage class:* Well drained

*Depth to seasonal water saturation:* More than 6 feet

*Flooding hazard:* Rare

*Ponding hazard:* None

*Shrink-swell potential:* Low

*Surface fragments (stone and/or boulder size):* None

*Rockiness:* None

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

**Interpretive Groups**

*Prime farmland:* Not prime farmland

*Land capability class:* Wolfgap—1; Derroc—4s; Urban land—8

*Virginia soil management group:* Wolfgap—A; Derroc—CC; Urban land—none assigned

*Hydric soil:* Wolfgap and Derroc—no; Urban land—unranked

**W—Water**

**Setting**

*Major land resource area(s):* Northern Appalachian Ridges and Valleys (MLRA 147)

**Map Unit Composition**

Water and similar soils: Typically 100 percent

**General Description**

This map unit consists of ponds, creeks, streams, rivers, or reservoirs.





# Use and Management of the Soils

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This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. It also can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and for agricultural waste management. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of gravel, sand, reclamation material, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

## Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

## Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited*, *somewhat limited*, and *very limited*. Other ratings are expressed in terms of *slight*, *moderate*, *severe*, and *very severe* or as *low*, *moderate*, and *high* and also indicate the degree of major soil limitations to be considered in management. The suitability ratings are expressed as *well suited*, *moderately suited*, *poorly suited*, and *unsuited* or as *good*, *fair*, and *poor*.

## Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

## Crops and Pasture

Thomas Stanley, Extension Agent for Farm Business Management, Virginia Cooperative Extension, helped to prepare this section.

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed. The system of land capability classification used by the Natural Resources Conservation Service and the Virginia Land Use Evaluation (VALUE) System are explained. Prime farmland also is discussed.

Soil and water conservation practices are recommended on cropland, hayland, and pasture in the county because of slope, depth to bedrock, stoniness, and an effort to protect the quality of our watersheds. Presently in Rockbridge County, livestock grazing and hay production are the predominant activities on agricultural land with some land devoted to row crops and specialty crops.

Land devoted to livestock grazing and hay crops are generally on upland soils. These upland soils include such residual soils as Frederick, Groseclose, and Needmore, as well as such colluvial soils as Tumbling, Murrill, and Slabtown. Many hillsides are eroded from being farmed intensively in years past and consequently have very severe limitations to productivity. When mowing, supplemental fertilizer, and lime application are foregone for five or more years, encroachment by invasive weeds such as broomsedge (*Andropogon virginicus*), multiflora rose (*Rosa multiflora* Thunb.), and autumn olive (*Elaeagnus umbellata*) is common. Improved pasture and hay crops are most often alfalfa (*Medicago sativa*), orchardgrass (*Dactylis glomerata*), and clover (*Trifolium spp.*). No-tillage or minimum tillage systems are a sound approach for establishment and management of improved forages.

Other management practices for optimal pasture and hay productivity include rotational grazing, proper cutting or grazing height management, late summer stockpiling of fescue for winter grazing, and proper stocking rates. Soils in Rockbridge County respond well to these management practices as well as supplemental fertilizer, manure, or lime applications.

The most common row crops are corn and soybeans with some wheat, barley, and oats grown as well. These crops are most often utilized as livestock feed in the region with most corn being chopped for silage. In Rockbridge County some highly productive alluvial soils used for growing row crops include Gladehill, Wolfgap, Sensabaugh and Buckton soils. The best tillage practices for annual row crops include conservation tillage systems, especially no-tillage where the soil is left undisturbed prior to planting and weeds are controlled primarily by herbicide (fig. 20). Other conservation practices include strip cropping, crop rotations that include grasses and legumes, winter cover crops such as rye, grassed waterways, and diversions.

Specialty crops include vegetables and horticultural crops and some Christmas trees but all these are currently grown on a limited scale (fig. 21).

Specific information can be obtained from the local office of the Natural Resources Conservation Service or Virginia Cooperative Extension.



Figure 20.—No-tillage drill planting summer annuals on Frederick-Watahala complex, 8 to 15 percent slopes.



Figure 21.—Wine grape vineyard planted adjacent to a hayfield on a gently to strongly sloping area of Frederick silt loam soils.



### Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in **Table 5**. In any given year, yields may be higher or lower than those indicated in the tables because of variations in rainfall and other climatic factors. The land capability classification and other data also is shown in the table.

The yields are based on the Virginia Agronomic Land Use Evaluation System, also known as VALUES (VPI, 1994). Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

Realistic yield goals can be maintained over a long-term basis through proper nutrient management and other soil amendments such as lime. Applications of nitrogen and phosphorus from organic and inorganic forms should be done according to approved nutrient management practices and regulations.

Pasture yields are expressed in terms of animal unit months. In the demand context of supply and demand, an animal unit month (AUM) is the amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month. On the supply side, however, AUM calculations are used differently. For example, an acre of Berks soils rated at 4.0 AUMs provides forage to maintain 4.0 animal units for 1 month.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in **Table 5** are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or Virginia Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

### Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Land capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for forestland or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA-SCS, 1961). Only class and subclass are used in this survey.

*Capability classes*, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to pasture, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

*Capability subclasses* are soil groups within one class. They are designated by adding a small letter, *e*, *w*, *s*, or *c* to the class numeral, for example, 2*e*. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w*, *s*, or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

The land capability classifications of the soil map units in this survey area are given in **Table 5** and in the section “*Detailed Soil Map Units.*”

## Virginia Soil Management Groups

The Virginia Agronomic Land Use Evaluation System (VALUES) is a system used to rank soils for management and productivity (Virginia Polytechnic Institute and State University, 1994). VALUES places each soil series in Virginia into one of 43 management groups. In Rockbridge County, a total of 17 of the 43 management groups are used. The format of the management groups, A through NN, include the following soil characteristics-regional occurrence; parent material; landscape position or influence; solum thickness; dominant profile features, such as texture; available water capacity for plants; and internal soil drainage. Yields that are both economically and environmentally feasible were assigned to each management group based on yields of field trial crop data and research. Generally soils are placed into groups based on soil properties but can be placed into other groups if yields are more accurately reflected by them. The following paragraphs describe the soil management groups applicable to the soils mapped in Rockbridge County.

*Group A.* The soils in this group have formed in alluvial parent materials and are on gently sloping flood plains or stream terraces which have watersheds that originate west of the Blue Ridge. These soils are deep or very deep and are medium textured throughout. They have high available water capacity. They are well drained.

*Group D.* The soils of this group have formed from a variety of residual parent materials on upland landscapes in the Blue Ridge region. They are moderately deep to deep soils with fine-loamy subsoil textures. They have moderately high available water capacity. They are well to moderately well drained.



*Group G.* The soils of this group have formed in locally transported, medium textured sediments of either colluvial or alluvial origin that overlie a wide range of residual parent materials. These soils are on landscape positions that include footslopes and toeslopes, the heads of drainageways, depressions, and narrow upland drainageways. These deep and very deep soils are silty to loamy in the upper part of the subsoil, which is underlain with clayey to stony materials. They have moderately high available water capacity. They are moderately well or somewhat poorly drained.

*Group H.* The soils of this group have formed in alluvium along streams or terraces. They are moderately deep to very deep and have silty to clay loam subsoil layers. They have moderately high available water capacity. They are somewhat poorly drained or poorly drained, unless artificial drainage is provided. If artificial drainage is provided, the productive capacity of these soils is significantly increased.

*Group L.* The soils of this group have formed from old transported deposits of alluvium or colluvium. These soils are common on stream terraces, footslopes, and old elevated upland landscapes that were once stream terraces. They are deep or very deep, have medium textured surface layers, have more clayey subsoil layers, and commonly contain rounded gravel and stones. They have moderate or high available water capacity. Typically, they are well drained.

*Group M.* The soils of this group have formed in residuum from weathered carbonate rocks. These soils are on upland summits and side slopes. These deep or very deep soils have reddish brown clayey subsoil layers that contain coarse fragments in some areas. They have moderate available water capacity, unless the content of coarse fragments is significantly high. They are well drained.

*Group O.* The soils of this group have formed from transported materials ranging from mountain colluvium to old alluvium on dissected uplands and deposits on old elevated river terraces. These very deep to shallow soils have very dark red clayey subsoil layers with significant amounts of coarse fragments in some areas. They have moderate available water capacity. They are well drained.

*Group U.* The soils of this group have formed from a variety of residual parent materials ranging from sandstone, shale, and limestone to colluvium from these materials. These moderately deep to shallow soils have fine-loamy subsoil layers typically with coarse fragments making up one-third the soil volume. They have moderate or moderately low available water capacity. They are well or moderately well drained.

*Group W.* The soils of this group have formed from mixed colluvium and are on stream terrace or footslope positions. They have fragipans within the upper three feet of the soil, and have loamy subsoil horizons typically with coarse fragments. They have moderately low available water capacity. They are well to somewhat poorly drained.

*Group Y.* The soils of this group have formed in residuum from weathered limestone, shale, or other carbonate-influenced rocks on upland landscapes. These shallow to moderately deep soils have clayey subsoil layers with coarse fragments in some areas. They have moderate or low available water capacity where they are shallow to bedrock. They are mostly well drained.

*Group Z.* The soils of this group have formed from alluvium and are on stream terraces. They are very deep soils with clayey subsoil horizons. They have moderately high available water capacity. They are somewhat poorly drained.

*Group CC.* The soils of this group have formed from a range of parent materials that include alluvium and colluvium. These soils occur on a variety of landscapes, including uplands, stream terraces, colluvial areas, and bottomlands. They commonly have a moderately deep solum, are very deep to bedrock, and have clayey-skeletal to coarse-loamy subsoil layers typically with as much as 70 percent coarse fragments. They have moderately low available water capacity. They are well drained.

*Group FF.* The soils of this group have formed in residuum from sandstone and shale and in mountain colluvium on steeply dissected uplands and mountain side slopes. They are moderately deep and have loamy-skeletal subsoil layers typically with as much as 80 percent or more coarse fragments. They have low or very low available water capacity. They are well drained or moderately well drained.

*Group GG.* The soils of this group have formed in residuum from weathered cherty limestone or other rocks on ridgetops and side slopes. They are very deep to moderately deep and have loamy-skeletal subsoil layers typically with as much as 60 percent or more coarse fragments. They have low available water capacity. They are well drained.

*Group HH.* The soils of this group have formed from loamy sediments in flood plain positions. They are moderately deep to very deep soils with fine- loamy or clayey subsoil textures. They have moderate available water capacity. They are somewhat poorly to moderately well drained.

*Group JJ.* The soils of this group have formed in residuum from a wide variety of residual parent materials, ranging from sandstone, shale, and limestone to phyllite or schist. These soils are shallow to moderately deep, and typically are loamy-skeletal throughout with 30 to 70 percent coarse fragments. They have very low available water capacity. They are well drained. This group includes some very deep soils if the natural soil porosity has been disturbed.

*Group NN.* The soils of this group are undrained. These soils formed in alluvium along streams or on terraces. They are moderately deep to very deep, and have silty to clay loam subsoil layers. They have moderately high available water capacity. They are somewhat poorly drained or poorly drained.

The management groups for the soils in the survey area are given in **Table 5** and in the section "*Detailed Soil Map Units.*"

## Prime Farmland

**Table 6** lists the map units in the survey area that are considered prime farmland. This list does not constitute a recommendation for a particular land use.

In an effort to identify the extent and location of important farmlands, the Natural Resources Conservation Service, in cooperation with other interested Federal, State, and local government organizations, has inventoried land that can be used for the production of the Nation's food supply.

*Prime farmland* is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil quality, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and none to few rock fragments or rock outcrops. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the

Natural Resources Conservation Service.

Approximately 26,620 acres in the survey area, or nearly 7 percent of the total acreage, meet the requirement for prime farmland. This land is on flood plains, stream terraces, and gently sloping uplands. Historically, this land has been used primarily for agricultural purposes, mainly cropland, hayland and pastureland.

A recent trend in land use in some areas has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

For some soils identified as prime farmland, measures are needed to overcome a hazard or limitation, such as flooding, wetness, and droughtiness. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures.

Soil map units which meet the criteria of prime farmland are described in the section *“Detailed Soil Map Units.”*

## Hydric Soils

In this section, hydric soils are defined and described. They are also presented in a list as they occur in the survey area. This information can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (Hurt and others, 2002; National Research Council, 1995).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; National Research Council, 1995; Tiner, 1985; U.S. Army Corps of Engineers, 1987). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. These criteria are selected estimated soil properties that are described in “Soil Taxonomy” (Soil Survey Staff, 1999), “Keys to Soil Taxonomy” (Soil Survey Staff, 2010) and “Soil Survey Manual” (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in “Field Indicators of Hydric Soils in the United States” (Hurt and others, 2002).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions

observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

The following map units contain a major soil component that meets the definition of hydric soils. Hydric soils occurring in the survey area are Holly, Maurertown, and Purdy.

30A—Holly-Orrville complex, 0 to 3 percent slopes, occasionally flooded

40A—Maurertown-Toms complex, 0 to 3 percent slopes, rarely flooded

69A—Tygart-Purdy complex, 0 to 3 percent slopes

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform. Map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform. Onsite investigation is recommended to determine whether hydric soils occur and, if so, their location.

## Agricultural Waste Management

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

**Table 7, parts I-III** show the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of these tables, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 milligrams per liter. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 milligrams per liter. When wastewater is applied, checks should be made to ensure that nitrogen, heavy metals, and salts are not added in excessive amounts.

The ratings in the table are for waste management systems that not only dispose of and treat organic waste or wastewater but also are beneficial to crops (application of manure and food-processing waste, application of sewage sludge, and disposal of wastewater by irrigation) and for waste management systems that are designed only for the purpose of wastewater disposal and treatment (overland flow of wastewater, rapid infiltration of wastewater, and slow rate treatment of wastewater).

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect agricultural waste management. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.



Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*Application of manure and food-processing waste* not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are either solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

*Application of sewage sludge* not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied (fig. 22). In the context of this table, sewage sludge is the residual



Figure 22.—A 2,800-gallon tank truck spreading treated sewage sludge, referred to as biosolids, on Frederick silt loam, 8 to 15 percent slopes.

product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge. Permanently frozen soils are unsuitable for waste treatment.

*Disposal of wastewater by irrigation* not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also can improve crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, depth to a water table, and ponding. The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals. Permanently frozen soils are not suitable for disposal of wastewater by irrigation.

*Overland flow of wastewater* is a process in which wastewater is applied to the upper reaches of sloped land and allowed to flow across vegetated surfaces, sometimes called terraces, to runoff-collection ditches. The length of the run generally is 150 to 300 feet. The application rate ranges from 2.5 to 16.0 inches per week. It commonly exceeds the rate needed for irrigation of cropland. The wastewater leaves solids and nutrients on the vegetated surfaces as it flows downslope in a thin film. Most of the water reaches the collection ditch, some is lost through evapotranspiration, and a small amount may percolate to the ground water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, and the design and construction of the system. Reaction and the cation-exchange capacity affect absorption. Reaction, salinity, and the sodium adsorption ratio affect plant growth and microbial activity. Slope, permeability, depth to a water table, ponding, flooding, depth to bedrock or a cemented pan, stones, and cobbles affect design and construction. Permanently frozen soils are unsuitable for waste treatment.

*Rapid infiltration of wastewater* is a process in which wastewater applied in a level basin at a rate of 4 to 120 inches per week percolates through the soil. The wastewater may eventually reach the ground water. The application rate commonly exceeds the rate needed for irrigation of cropland. Vegetation is not a necessary part of the treatment; hence, the basins may or may not be vegetated. The thickness of the soil material needed for proper treatment of the wastewater is more than 72 inches. As



a result, geologic and hydrologic investigation is needed to ensure proper design and performance and to determine the risk of ground-water pollution.

The ratings in the table are based on the soil properties that affect the risk of pollution and the design, construction, and performance of the system. Depth to a water table, ponding, flooding, and depth to bedrock or a cemented pan affect the risk of pollution and the design and construction of the system. Slope, stones, and cobbles also affect design and construction. Permeability and reaction affect performance. Permanently frozen soils are unsuitable for waste treatment.

*Slow rate treatment of wastewater* is a process in which wastewater is applied to land at a rate normally between 0.5 inch and 4.0 inches per week. The application rate commonly exceeds the rate needed for irrigation of cropland. The applied wastewater is treated as it moves through the soil. Much of the treated water may percolate to the ground water, and some enters the atmosphere through evapotranspiration. The applied water generally is not allowed to run off the surface. Waterlogging is prevented either through control of the application rate or through the use of tile drains, or both.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, and the application of waste. The properties that affect absorption include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, depth to bedrock or a cemented pan, reaction, the cation-exchange capacity, and slope. Reaction, the sodium adsorption ratio, salinity, and bulk density affect plant growth and microbial activity. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood of wind erosion or water erosion. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

## Forestland Productivity and Management

Karen Stanley, forester, Virginia Department of Forestry, helped to prepare this section.

Of the total acreage in the survey area of Rockbridge County, approximately 230,300 acres, or 62 percent of the total acreage, is in forestland. Public forestland accounts for approximately 31 percent of total forestland with most of it consisting of steep, mountainous areas in the George Washington and Jefferson National Forests, National Park Service land, and land under state management with the Virginia Department of Game and Inland Fisheries. The majority of forestland, approximately 69 percent, is owned by private landowners.

Rockbridge County's mountain summits and sideslopes dominantly support a forest cover of oak-hickory. Pine ecosystems that include Virginia pine, pitch pine, shortleaf pine, and eastern white pine typically are found on drier southern and western aspects.

The lower slopes and north and east aspects with higher soil moisture support predominantly yellow poplar, birch, beech, and eastern hemlock; however, the hemlock woolly adelgid is steadily eradicating this species. At present, little headway has been made to control this exotic insect and prevent the widespread eradication of the eastern hemlock from the ecosystem, similar to the fate of the American chestnut early in the 20th century.

Another forest pressure in this area of the state is nonnative, exotic invasive species. Some of our major invasive plant species include *Ailanthus altissima*, also known as paradise tree or tree-of-heaven, multiflora rose (*Rosa multiflora* Thunb.), and autumn olive (*Elaeagnus umbellata*). These species spread rapidly if not controlled and inhibit the natural biodiversity of the area, often growing more quickly and producing more seed for regeneration than native species.

Soils on Rocky Mountain and Elk Pond Mountain in the Blue Ridge at the highest elevations in the county, generally exceeding 3,600 feet, support northern red oak as the dominant species mixed with hickory, sugar maple, black cherry, and white ash.

Up until the mid-20th century, changes in land use were from agriculture to forestland and back. Presently, productive agricultural land and forestland have been permanently lost to development pressures. Now fragmentation of forestland through small land ownership and development of open land are the main pressure on declining forestland in this rural county.

Forest industry in Rockbridge County includes a number of hardwood and pine sawmills, a railroad tie plant, and a pulp and paper mill in adjacent Alleghany County. Several other smaller manufacturers use local wood to make value-added products.

Historically and up to present day, harvesting timber on our forestlands has not been done to sustainable standards. Often the most valuable trees were removed and the poor quality trees were left to grow into the future stand. As a result, in some areas there are a high percentage of trees that are unsuitable for high quality lumber.

Forestland should be managed to increase economic benefits while sustaining environmental benefits. Proper planning for timber management is essential to minimize the potential impact to soil and water quality. A harvest plan should include attention to haul roads, log landings, skid trails, planting and harvesting equipment, streamside management zones, stream crossings, and Best Management Practices (BMPs) for each activity. A forest stewardship plan should be developed to guide proper use and management of the forest resources.

The tables described in this section can be used by woodland owners or forest managers in planning the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forestland management.

## Forestland Productivity

In **Table 8**, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual" (USDA, 1998), which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

*Trees to manage* are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

## Forestland Management

In **Table 9, Parts I through V**, interpretive ratings are given for various aspects of forestland management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified aspect of forestland management. *Well suited* indicates that the soil has features that are favorable for the specified management aspect and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified management aspect. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified management aspect. Overcoming the unfavorable properties requires

special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified management aspect or that extreme measures are needed to overcome the undesirable soil properties.

Other rating class terms are expressed as *slight*, *moderate*, *severe* and *very severe* or *low*, *moderate* and *high* and indicate the degree of major soil limitations to be considered in management.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual" (USDA, 1998), which is available in local offices of the Natural Resources Conservation Service or on the Internet.

For *limitations affecting construction of haul roads and log landings*, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Ratings in the column *hazard of off-road or off-trail erosion* are based on slope and on soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance. The hazard is described as slight, moderate, severe, or very severe. A rating of *slight* indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance, and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification,

depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the column *suitability for mechanical site preparation (surface)* are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 1 foot is considered in the ratings.

Ratings in the column *suitability for mechanical site preparation (deep)* are based on slope, depth to a restrictive layer, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 3 feet is considered in the ratings.

Ratings in the column *potential for damage to soil by fire* are based on texture of the surface layer, content of rock fragments and organic matter in the surface layer, thickness of the surface layer, and slope. The soils are described as having a low, moderate, or high potential for this kind of damage. The ratings indicate an evaluation of the potential impact of prescribed fires or wildfires that are intense enough to remove the duff layer and consume organic matter in the surface layer.

Ratings in the column *potential for seedling mortality* are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality.

## Recreational Development

James Dick, director of campus recreation, Washington and Lee University, and Paul Bugas, fisheries biologist, Virginia Department of Game and Inland Fisheries, helped to prepare this section.

Rockbridge County is located at the intersection of two major interstate highways and is accessible to multiple outdoor recreational activities.

There are three major rivers in the county: the Maury, South, and James Rivers. These rivers and their numerous tributaries provide opportunities to fish, paddle, or swim. Rainbow and brown trout are stocked in the swift waters that flow through Goshen Pass. The Maury River begins to warm at Rockbridge Baths and supports outstanding populations of smallmouth bass, rock bass, and redbreast sunfish all the way to Glasgow. Muskellunge and flathead catfish are also sometimes found in lower Maury River. Native brook trout inhabit waterways such as Guys Run, Brattons Run, and Irish Creek. Rainbow trout are frequently stocked in the South River, downstream of Vesuvius. The county also has four lakes that provide opportunities for recreational boating and fishing.

Approximately 20 percent of the acreage in the survey area is public lands. The public lands provide opportunities for camping, picnicking, hiking, hunting, cycling, rock climbing, and spelunking. For cyclists, a portion of the TransAmerica Bike Route runs through Rockbridge County. For rock climbers, Chambers Ridge is a rock bluff about

60 feet high with about a dozen routes. Other climbing areas include Castle Rock and the Maury River Wall both in scenic Goshen Pass. Scattered throughout the karst areas of Rockbridge County, both public and private caves are explored.

Areas of special interest include McCormick Farm, Natural Bridge, Chessie Trail, Jordan's Point, Brushy Hills Preserve, and Glen Maury Park. The Vista Links in Buena Vista is a public 18-hole golf course.

The Blue Ridge Parkway, the Appalachian Trail, and Scenic Drive traversing the summit of Great North Mountain, offer views of some beautiful and rugged terrain in the county.

In **Table 10, parts I and II**, the soils of the survey area are rated according to limitations that affect their suitability for recreational development. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the table are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in this table can be supplemented by other information in this survey, for example, interpretations for dwellings without basements, for local roads and streets, and for septic tank absorption fields.

*Camp areas* require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.



*Picnic areas* are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Playgrounds* require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Paths and trails* for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

*Off-road motorcycle trails* require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

*Golf fairways* are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

## Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading "*Soil Properties.*"

*Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.*



*The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.*

*Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.*

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, reclamation material, roadfill, and topsoil; plan structures for water management; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the "Glossary."

## Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. **Table 11, parts I and II** show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*Dwellings* are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced

concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Small commercial buildings* are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Local roads and streets* have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

*Shallow excavations* are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

*Lawns and landscaping* require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

## Sanitary Facilities

**Table 12, parts I and II** show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*Septic tank absorption fields* are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

*Sewage lagoons* are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

*A trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin

layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill (fig. 23). The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

*Daily cover for landfill* is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.





Figure 23.—Rockbridge County landfill is located on a gently to strongly sloping area of Shottower fine sandy loam soils. On this area, Shottower soils perform well to moderate as a landfill site and as a source of daily cover.

## Construction Materials

**Table 13, Parts I and II** give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

*Gravel* and *sand* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In **Table 13, part I**, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good*, *fair*, or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In **Table 13, Part II**, the rating class terms are *good*, *fair*, and *poor*. The features that limit the soils as sources of these materials are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features

limit the soils as sources of reclamation material, roadfill, and topsoil. The lower the number, the greater the limitation.

*Reclamation material* is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

*Roadfill* is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

*Topsoil* is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

## Water Management

**Table 14** gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.



Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*Pond reservoir areas* hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

*Embankments, dikes, and levees* are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

*Aquifer-fed excavated ponds* are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

# Soil Properties

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Data relating to soil properties are collected during the course of the soil survey.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

## Engineering Soil Properties

**Table 15** gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Texture* is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the "*Glossary*."

*Classification* of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

*Rock fragments* larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages

are estimates determined mainly by converting volume percentage in the field to weight percentage.

*Percentage (of soil particles) passing designated sieves* is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

*Liquid limit and plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

## Physical Soil Properties

**Table 16** shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Particle size* is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

*Sand* as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Silt* as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Clay* as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

*Moist bulk density* is the weight of soil (oven-dry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at  $\frac{1}{3}$ - or  $\frac{1}{10}$ -bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

*Saturated hydraulic conductivity* refers to the ability of a soil to transmit water or air. The term “permeability,” as used in soil surveys, indicates saturated hydraulic conductivity ( $K_{sat}$ ). The estimates in the table indicate the rate of water movement, in micrometers per second, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

*Available water capacity* refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

*Linear extensibility* refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at  $1/3$ - or  $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

*Organic matter* is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter (fig. 24).

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

*Erosion factors* are shown in the table as the K factor ( $K_w$  and  $K_f$ ) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

*Erosion factor  $K_w$*  indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

*Erosion factor  $K_f$*  indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

*Erosion factor T* is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

*Wind erodibility groups* are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the “National Soil Survey Handbook” (USDA/



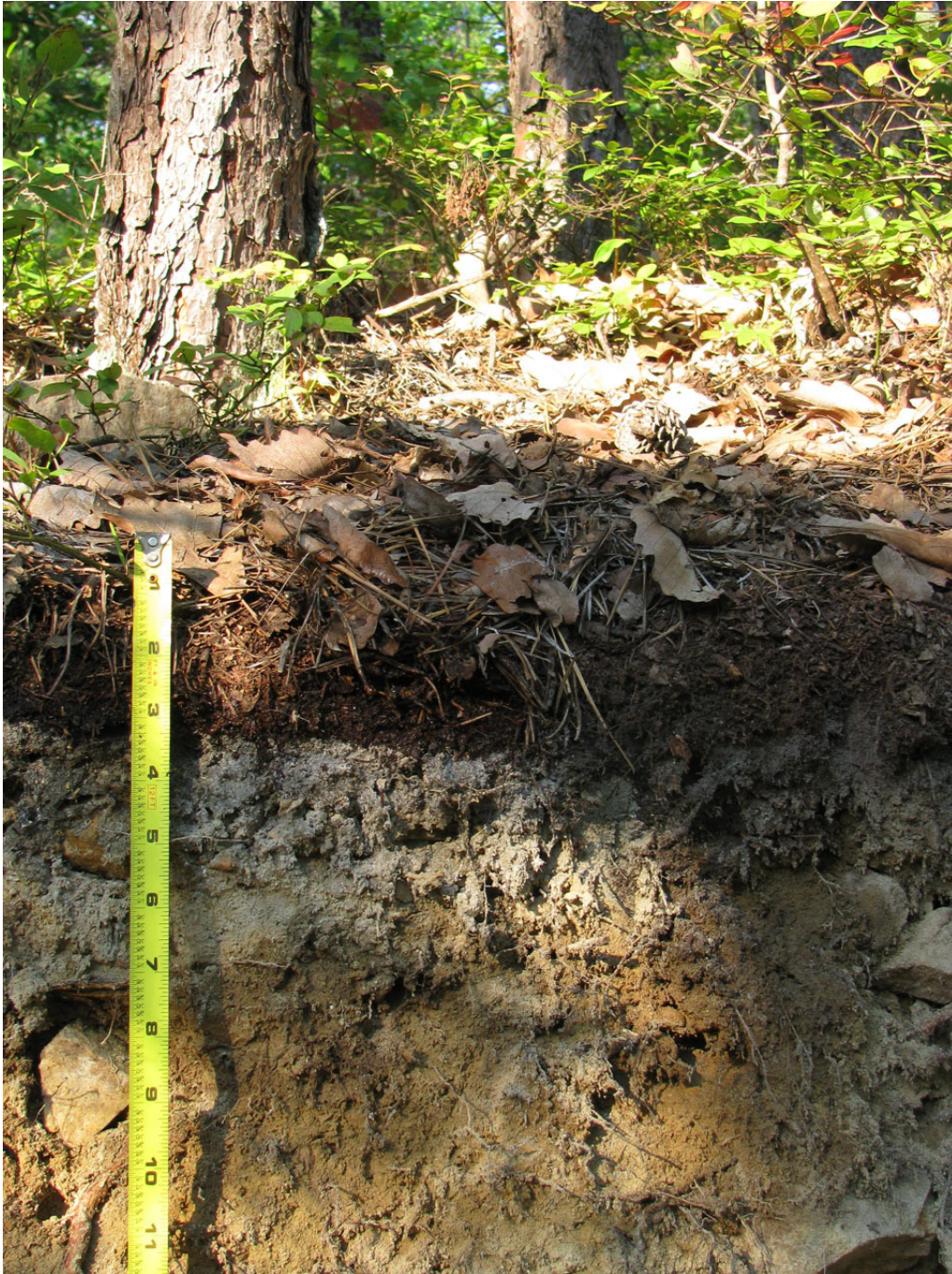


Figure 24.—In a forested soil, the organic matter is concentrated near the surface. The zone above the B horizon typically becomes a bleached E horizon because decomposition of the forest litter produces organic acids that strip iron, aluminum and silicate clays from this horizon.

NRCS, 1996 and updated online), which is available in local offices of the Natural Resources Conservation Service or on the Internet.

*Wind erodibility index* is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

## Chemical Soil Properties

**Table 17** shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Cation-exchange capacity* is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

*Effective cation-exchange capacity* refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

*Soil reaction* is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

*Calcium carbonate* equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

## Water Features

**Table 18** gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

*Hydrologic soil groups* are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

*Surface runoff* refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.



The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

*Water table* refers to a saturated zone in the soil. The table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

*Ponding* is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

*Flooding* is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

*Duration* and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered is local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

## Soil Features

**Table 19** gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

*Potential for frost action* is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

*Risk of corrosion* pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.



# Classification of the Soils

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The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2010). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. **Table 20** shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

**ORDER.** Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Ultisol.

**SUBORDER.** Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udult (*Ud*, meaning humid, plus *ult*, from Ultisol).

**GREAT GROUP.** Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Hapludults (*Hapl*, meaning minimal horizonation, plus *udult*, the suborder of the Ultisols that has a udic moisture regime).

**SUBGROUP.** Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Hapludults.

**FAMILY.** Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, active, mesic Typic Hapludults.

**SERIES.** The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

## Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each

series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" (Soil Survey Division Staff, 1993) and in the "Field Book for Describing and Sampling Soils" (Schoeneberger and others, 2002). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (Soil Survey Staff, 1999) and in "Keys to Soil Taxonomy" (Soil Survey Staff, 2010). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

## Alonzville Series

*Physiographic province:* Valley and Ridge

*Landform:* Low to intermediate level stream terraces

*Flooding:* Rare to none

*Parent material:* Alluvium derived from sandstone, siltstone, and shale and, to a lesser extent, limestone and dolomitic limestone

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 0 to 8 percent

### Associated Soils

- Coursey soils, which are moderately well drained; in landform positions similar to those of the Alonzville soils
- Derroc soils, which have a loamy-skeletal particle-size class; on flood plains
- Gladehill soils, which have a mollic epipedon; on flood plains
- Philo soils, which are moderately well drained; on flood plains
- Pope soils, which have more sand than the Alonzville soils; on flood plains
- Wolfgap soils, which have a mollic epipedon layer; on flood plains

### Taxonomic Classification

Fine-loamy, siliceous, semiactive, mesic Typic Hapludults

### Typical Pedon

Alonzville loam, 0 to 3 percent slopes, rarely flooded; in Alleghany County, Virginia; approximately 9,350 feet south-southwest of the intersection of Highways VA-159 and VA-665 on a bearing of 210 degrees, in the area of Peters Mountain, in pasture; Callaghan, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 45 minutes 56 seconds N. and long. 80 degrees 07 minutes 04 seconds W.

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) loam; weak fine granular structure; very friable; common very fine and fine roots; 12 percent rounded sandstone gravel; strongly acid; clear smooth boundary.

BA—5 to 15 inches; brown (10YR 4/3) loam; weak fine subangular blocky structure; very friable; common very fine and fine roots; 12 percent rounded sandstone gravel; strongly acid; gradual smooth boundary.

Bt1—15 to 44 inches; dark yellowish brown (10YR 4/4) clay loam; strong medium subangular blocky structure; very friable; few very fine and fine roots; many distinct clay films on all faces of peds; 3 percent rounded sandstone gravel; strongly acid; diffuse smooth boundary.

Bt2—44 to 55 inches; dark yellowish brown (10YR 4/4) clay loam; moderate medium subangular blocky structure; very friable; few very fine and fine roots; common faint clay films on all faces of peds; 12 percent rounded sandstone gravel; strongly acid; gradual smooth boundary.

BC—55 to 65 inches; dark yellowish brown (10YR 4/4) gravelly loam; weak fine subangular blocky structure; very friable; few very fine and fine roots; 30 percent rounded sandstone gravel; strongly acid.

#### **Range in Characteristics**

*Solum thickness:* 30 inches or more

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, very strongly acid to moderately acid

*Ap horizon:*

Hue—7.5YR or 10YR

Value—2 to 5

Chroma—2 or 3

Fine-earth texture—loam

Rock fragment content—0 to 15 percent

*BA or BE horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 6

Fine-earth texture—loam, silt loam, or fine sandy loam

Rock fragment content—0 to 15 percent

*Bt horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 8

Fine-earth texture—loam, silt loam, silty clay loam, or clay loam

Rock fragment content—0 to 15 percent

*BC horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—4 to 6

Fine-earth texture—loam, sandy clay loam, or clay loam

Rock fragment content—0 to 35 percent

*C horizon (if it occurs):*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Fine-earth texture—loam, sandy loam, sandy clay loam, or clay loam

Rock fragment content—0 to 35 percent

### **Berks Series**

*Physiographic province:* Valley and Ridge

*Landform:* Hills and mountains

*Flooding:* None

*Parent material:* Residuum weathered from acid shale and siltstone

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Moderately deep

*Slope range:* 3 to 70 percent



### **Associated Soils**

- Dekalb soils, which are moderately deep to sandstone bedrock; in positions on mountains that are similar to those of the Berks soils
- Escatawba soils, which are very deep to bedrock; in colluvial positions
- Lehigh soils, which are moderately deep to sandstone bedrock; in similar positions on mountains
- Rough soils, which are very shallow to bedrock; in similar landform positions
- Weikert soils, which are shallow to bedrock; in similar landform positions

### **Taxonomic Classification**

Loamy-skeletal, mixed, active, mesic Typic Dystrudepts

### **Typical Pedon**

Berks channery silt loam in an area of Weikert-Berks-Rough complex, 35 to 70 percent slopes; in Rockbridge County, Virginia; approximately 3,750 feet west-southwest of the intersection of Highway VA-780 and Forest Service Road 328 on a bearing of 245 degrees, along Black Run in the area of Little California, in woodland; Millboro, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 55 minutes 20 seconds N. and long. 79 degrees 35 minutes 46 seconds W.

Oe—0 to 1 inch; moderately decomposed plant material.

A—1 to 3 inches; very dark grayish brown (10YR 3/2) channery silt loam; weak fine and medium granular structure; very friable, nonsticky, nonplastic; common fine and medium roots; 20 percent acid shale channers; very strongly acid; abrupt smooth boundary.

E—3 to 5 inches; yellowish brown (10YR 5/4) channery silt loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; common fine and medium roots; 20 percent acid shale channers; very strongly acid; abrupt wavy boundary.

Bw1—5 to 9 inches; yellowish brown (10YR 5/6) channery silt loam; moderate medium subangular blocky structure; friable, nonsticky, nonplastic; common fine and medium roots; 25 percent acid shale channers; very strongly acid; clear wavy boundary.

Bw2—9 to 27 inches; yellowish brown (10YR 5/8) very channery silt loam; moderate medium subangular blocky structure; friable, nonsticky, nonplastic; few fine and medium roots; 40 percent acid shale channers; very strongly acid; clear wavy boundary.

C—27 to 30 inches; yellowish brown (10YR 5/6) extremely channery silt loam; massive; friable, nonsticky, nonplastic; few fine roots; 65 percent acid shale channers; very strongly acid; clear wavy boundary.

R—30 inches; fissile acid shale bedrock.

### **Range in Characteristics**

*Solum thickness:* 18 to 40 inches

*Depth to bedrock:* 20 to 40 inches

*Reaction:* In unlimed areas, extremely acid to strongly acid

*A horizon:*

Hue—10YR

Value—3 or 4

Chroma—2 to 4

Fine-earth texture—silt loam

Rock fragment content—15 to 35 percent

*E horizon:*

Hue—10YR or 2.5Y  
Value—5 or 6  
Chroma—2 to 6  
Fine-earth texture—silt loam or loam  
Rock fragment content—15 to 60 percent

*Bw horizon:*

Hue—7.5YR to 2.5Y  
Value—5 or 6  
Chroma—4 to 8  
Fine-earth texture—silt loam or loam  
Rock fragment content—15 to 70 percent; weighted average of 35 percent or more in the particle-size control section

*C horizon:*

Hue—7.5YR to 2.5Y  
Value—4 to 6  
Chroma—4 to 8  
Fine-earth texture—silt loam or loam  
Rock fragment content—35 to 80 percent

## Botetourt Series

*Physiographic province:* Valley and Ridge

*Landform:* Low level stream terraces

*Flooding:* Rare

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

*Drainage class:* Moderately well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 0 to 3 percent

### Associated Soils

- Derroc soils, have a loamy-skeletal particle-size class; on flood plains
- Gladehill soils, which have a mollic epipedon; on flood plains
- Ingledove soils, which are well drained; in landform positions similar to those of the Botetourt soils
- Lobdell soils, which do not have an argillic horizon; on flood plains
- Sensabaugh soils, which are well drained; on flood plains
- Wolfgap soils, which have a mollic epipedon; on flood plains

### Taxonomic Classification

Fine-loamy, siliceous, semiactive, mesic Oxyaquic Hapludalfs

### Typical Pedon

Botetourt loam, 2 to 7 percent slopes, rarely flooded; in Botetourt County, Virginia; approximately 3 miles northwest of Fincastle, 0.5 mile southeast of the intersection of Highways VA-606 and VA-666, and 500 feet west of the North Fork of Catawba Creek, in hayland; Oriskany, Virginia USGS 7.5 Minute Quadrangle; approximate lat. 37 degrees 31 minutes 29 seconds N. and long. 79 degrees 55 minutes 26 seconds W.

Ap—0 to 7 inches; brown (10YR 5/3) loam; moderate medium granular structure; very friable, nonsticky, nonplastic; many very fine and fine roots; 5 percent rounded gravel; neutral; abrupt smooth boundary.

## Soil Survey of Rockbridge County, Virginia

- Bt1—7 to 14 inches; brownish yellow (10YR 6/6) clay loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine roots; common distinct clay films on all faces of peds; few fine distinct strong brown (7.5YR 5/8) masses of oxidized iron; 2 percent rounded gravel; moderately acid; clear smooth boundary.
- Bt2—14 to 24 inches; yellowish brown (10YR 5/6) clay loam; moderate medium subangular blocky structure; firm, slightly sticky, slightly plastic; few very fine roots; common faint clay films on all faces of peds; common medium distinct very pale brown (10YR 7/3) iron depletions; common medium distinct strong brown (7.5YR 5/8) masses of oxidized iron; strongly acid; gradual smooth boundary.
- Bt3—24 to 44 inches; brownish yellow (10YR 6/8) clay loam; moderate medium and coarse subangular blocky structure; firm, slightly sticky, slightly plastic; few very fine roots; many faint clay films on all faces of peds; many coarse prominent light gray (10YR 7/1) iron depletions; strongly acid; clear wavy boundary.
- BC—44 to 53 inches; reddish yellow (7.5YR 6/8) loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; many coarse prominent light gray (N 7/) iron depletions; 2 percent rounded gravel; strongly acid; clear wavy boundary.
- C—53 to 65 inches; yellowish brown (10YR 5/8) gravelly sandy clay loam; massive; friable, slightly sticky, slightly plastic; many coarse prominent gray (10YR 6/1) and light gray (N 7/) iron depletions; 15 percent rounded gravel and 3 percent rounded cobbles; strongly acid.

### Range in Characteristics

*Solum thickness:* 40 inches or more

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, strongly acid to neutral in the A horizon and strongly acid to slightly acid in the B and C horizons

#### *Ap horizon:*

Hue—10YR

Value—4 to 6

Chroma—2 to 4

Fine-earth texture—loam

Rock fragment content—0 to 15 percent

#### *Bt horizon:*

Hue—7.5YR to 2.5Y

Value—4 to 6

Chroma—3 to 8

Fine-earth texture—loam, clay loam, or sandy clay loam

Rock fragment content—0 to 35 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray (chroma of 2 or less) below the upper 10 inches of the argillic horizon

#### *BC horizon:*

Hue—7.5YR to 2.5Y

Value—4 to 6

Chroma—3 to 8

Fine-earth texture—loam, clay loam, or sandy clay loam

Rock fragment content—0 to 35 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray

*BCg horizon (if it occurs):*

Hue—7.5YR to 2.5Y

Value—4 to 6

Chroma—1 or 2

Fine-earth texture—loam, clay loam, or sandy clay loam

Rock fragment content—0 to 35 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray within the gleyed matrix

*C horizon:*

Hue—7.5YR to 2.5Y

Value—4 to 6

Chroma—3 to 8

Fine-earth texture—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

Rock fragment content—5 to 50 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray

*Cg horizon (if it occurs):*

Hue—7.5YR to 2.5Y

Value—4 to 6

Chroma—1 or 2

Fine-earth texture—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

Rock fragment content—5 to 50 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray within the gleyed matrix

## **Buckton Series**

*Physiographic province:* Valley and Ridge

*Landform:* Flood plains mainly along Hays Creek and its tributaries underlain by limestone and dolomitic limestone

*Flooding:* Occasional

*Parent material:* Alluvium derived from calcium carbonate-rich deposits mixed with limestone, dolomitic limestone, sandstone, siltstone, and shale

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 0 to 3 percent

### **Associated Soils**

- Botetourt soils, which are moderately well drained and have an argillic horizon; on low level stream terraces
- Holly soils, which are poorly drained; on flood plains throughout the county
- Ingledove soils, which are well drained and have an argillic horizon; on low level stream terraces
- Orrville soils, which are somewhat poorly drained; on flood plains throughout the county
- Weaver soils, which are moderately well drained; on flood plains similar to those of the Buckton soils

### **Taxonomic Classification**

Fine-silty, mixed, semiactive, calcareous, mesic Typic Udifluvents

### **Typical Pedon**

Buckton silt loam, 0 to 2 percent slopes, occasionally flooded; in Warren County, Virginia; approximately 1,200 feet south of Lake John, 125 yards southeast of Highway VA-612:

- Ap—0 to 7 inches; brown (10YR 4/3) silt loam; weak fine and medium granular structure; friable; many fine roots; few fine and medium pores; neutral; gradual smooth boundary.
- C1—7 to 18 inches; brown (10YR 5/3) silt loam; weak fine and medium subangular blocky structure; friable; many fine roots; few fine and medium pores; slightly effervescent; slightly alkaline; gradual smooth boundary.
- C2—18 to 29 inches; brown (10YR 4/3) silt loam; weak medium subangular blocky structure parting to weak fine granular; friable; many fine and few medium roots; many fine pores; slightly effervescent; slightly alkaline; gradual smooth boundary.
- C3—29 to 48 inches; dark brown (10YR 3/3) silt loam; weak coarse subangular blocky structure parting to weak fine granular; friable; few fine and medium roots; slightly effervescent; slightly alkaline; gradual smooth boundary.
- 2C4—48 to 73 inches; brown (10YR 4/3) fine sand with few thin layers of silt loam; single grain; loose; slightly alkaline.

### **Range in Characteristics**

*Depth to bedrock:* 60 inches or more

*Reaction:* Neutral to moderately alkaline; calcium carbonate equivalent is less than 40 percent

*Secondary carbonates and snail shells:* Typically finely disseminated throughout the horizons

#### *Ap horizon:*

Hue—7.5YR or 10YR

Value—3 or 4

Chroma—2 to 4

Fine-earth texture—silt loam

Rock fragment content—0 to 2 percent

#### *C horizon:*

Hue—7.5YR or 10YR

Value—3 to 5

Chroma—2 to 4

Fine-earth texture—silt loam or silty clay loam

Rock fragment content—0 to 2 percent

#### *2C horizon:*

Hue—7.5YR or 10YR

Value—3 to 5

Chroma—2 to 4

Fine-earth texture—fine sand, sandy loam, loam, silt loam, or clay loam

Rock fragment content—0 to 25 percent

## **Caneyville Series**

*Physiographic province:* Valley and Ridge

*Landform:* Hills and mountains

*Flooding:* None

## Soil Survey of Rockbridge County, Virginia

*Parent material:* Residuum weathered from limestone, cherty limestone, and dolomitic limestone

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Moderately deep

*Slope range:* 3 to 55 percent

### Associated Soils

- Frederick soils, which are very deep to bedrock; in landform positions similar to those of the Caneyville soils
- Opequon soils, which are shallow to bedrock; in similar landform positions
- McClung soils, which are very deep to bedrock; in similar landform positions
- Slabtown soils, which are very deep to bedrock; in local colluvial positions
- Watahala soils, which are very deep to bedrock; in similar landform positions

### Taxonomic Classification

Fine, mixed, active, mesic Typic Hapludalfs

### Typical Pedon

Caneyville silt loam in an area of Frederick-Caneyville complex, 15 to 35 percent slopes, very rocky; in Rockbridge County, Virginia; approximately 2,350 feet east-northeast of the intersection of Highways VA-717 and VA-719 on a bearing of 67 degrees, in the area of Goose Creek, in pasture; Brownsburg, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 55 minutes 19 seconds N. and long. 79 degrees 16 minutes 34 seconds W.

Ap—0 to 3 inches; brown (7.5YR 4/4) silt loam; moderate fine and medium granular structure; very friable, nonsticky, nonplastic; many fine roots; 4 percent limestone gravel; slightly acid; abrupt smooth boundary.

BA—3 to 6 inches; strong brown (7.5YR 4/6) silt loam; moderate medium subangular blocky structure parting to moderate medium granular; very friable, nonsticky, nonplastic; many fine roots; 4 percent limestone gravel; slightly acid; clear smooth boundary.

Bt1—6 to 12 inches; yellowish red (5YR 4/6) silty clay loam; strong medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine roots; common distinct clay films on all faces of peds; 2 percent limestone gravel; slightly acid; gradual wavy boundary.

Bt2—12 to 25 inches; red (2.5YR 4/8) clay; strong medium and coarse subangular blocky structure; friable, moderately sticky, moderately plastic; common fine roots; many prominent clay films on all faces of peds; 2 percent limestone gravel; neutral; abrupt wavy boundary.

R—25 inches; hard limestone bedrock.

### Range in Characteristics

*Solum thickness:* 20 to 40 inches

*Depth to bedrock:* 20 to 40 inches

*Reaction:* In unlimed areas, very strongly acid to neutral in the A and BA horizons, moderately acid to neutral in the B horizon

*Ap horizon:*

Hue—7.5YR or 10YR

Value—3 or 4

Chroma—2 to 4

Fine-earth texture—silt loam

Rock fragment content—0 to 10 percent



*BA horizon:*

Hue—7.5YR or 10YR  
Value—4 to 6  
Chroma—4 to 6  
Fine-earth texture—silt loam or loam  
Rock fragment content—0 to 10 percent

*Bt horizon:*

Hue—2.5YR to 7.5YR  
Value—4 to 6  
Chroma—4 to 8  
Fine-earth texture—silty clay loam, clay, or silty clay  
Rock fragment content—0 to 15 percent

## **Carbo Series**

*Physiographic province:* Valley and Ridge

*Landform:* Hills and mountains

*Flooding:* None

*Parent material:* Residuum weathered from limestone and, in some places, calcareous shale and siltstone

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately low

*Depth class:* Moderately deep

*Slope range:* 3 to 70 percent

### **Associated Soils**

- Opequon soils, which are shallow to bedrock; in landform positions similar to those of the Carbo soils
- Groseclose soils, which are very deep to bedrock; in similar landform positions
- Needmore soils, which have a fine particle-size class; in similar landform positions
- Slabtown soils, which are very deep to bedrock; in local colluvial positions

### **Taxonomic Classification**

Very-fine, mixed, active, mesic Typic Hapludalfs

### **Typical Pedon**

Carbo silty clay loam in an area of Carbo-Opequon complex, 15 to 35 percent slopes, very rocky; in Rockbridge County, Virginia; approximately 1,675 feet south-southeast of the intersection of Highways VA-672 and VA-676 on a bearing of 170 degrees, in the area of Toad Run, in pasture; Collierstown, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 47 minutes 14 seconds N. and long. 79 degrees 31 minutes 22 seconds W.

Ap—0 to 3 inches; dark brown (10YR 3/3) silty clay loam; moderate fine granular structure; friable, moderately sticky, moderately plastic; many fine roots; 2 percent limestone gravel; neutral; abrupt smooth boundary.

Bt1—3 to 9 inches; variegated 75 percent dark yellowish brown (10YR 4/4) and 25 percent yellowish brown (10YR 5/6) clay; moderate medium subangular blocky structure; friable, very sticky, very plastic; common fine roots; many prominent dark olive brown (2.5Y 3/3) clay films; 2 percent limestone gravel; slightly alkaline; clear wavy boundary.

Bt2—9 to 25 inches; dark yellowish brown (10YR 4/4) clay; moderate medium subangular blocky structure parting to moderate fine angular blocky; firm, very

## Soil Survey of Rockbridge County, Virginia

sticky, very plastic; common fine roots; many prominent dark olive brown (2.5Y 3/3) clay films; 2 percent limestone gravel; slightly alkaline; abrupt wavy boundary.  
R—25 inches; hard limestone bedrock.

### Range in Characteristics

*Solum thickness:* 20 to 40 inches

*Depth to bedrock:* 20 to 40 inches

*Reaction:* In unlimed areas, moderately acid to neutral in the A horizon, moderately acid to slightly alkaline in the B horizon

*Ap horizon:*

Hue—7.5YR or 10YR

Value—3 to 5

Chroma—3 or 4

Fine-earth texture—silty clay loam

Rock fragment content—0 to 10 percent

*Bt horizon:*

Hue—5YR to 10YR

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—clay

Rock fragment content—0 to 15 percent

## Chiswell Series

*Physiographic province:* Valley and Ridge

*Landform:* Hills

*Flooding:* None

*Parent material:* Residuum weathered from shale and siltstone and, in some areas, calcareous shale and siltstone

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Shallow

*Slope range:* 8 to 55 percent

### Associated Soils

- Litz soils, which are moderately deep to bedrock; in landform positions similar to those of the Chiswell soils
- Groseclose soils, which are very deep to bedrock; in similar landform positions
- Needmore soils, which are moderately deep to bedrock; in similar landform positions

### Taxonomic Classification

Loamy-skeletal, mixed, active, mesic, shallow Typic Dystrudepts

### Typical Pedon

Chiswell channery silt loam in an area of Litz-Chiswell-Groseclose complex, 35 to 55 percent slopes; in Rockbridge County, Virginia; approximately 9,850 feet south-southwest of Goose Neck Dam on a bearing of 198 degrees, in the area of Brady Hill, in woodland; Glasgow, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 40 minutes 27 seconds N. and long. 79 degrees 25 minutes 11 seconds W.

Oe—0 to 1 inch; moderately decomposed plant material.

A—1 to 5 inches; brown (10YR 4/3) channery silt loam; weak fine and medium granular structure; very friable, nonsticky, slightly plastic; many very fine to coarse roots; 20 percent channers; very strongly acid; clear wavy boundary.

BE—5 to 10 inches; yellowish brown (10YR 5/4) channery silt loam; weak fine and medium subangular blocky structure; friable, nonsticky, slightly plastic; common very fine to medium roots; many silt coatings on rock fragments; 25 percent channers; very strongly acid; clear wavy boundary.

Bw—10 to 17 inches; yellowish brown (10YR 5/6) extremely channery silt loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine to medium roots; many silt coatings on rock fragments; 65 percent channers; very strongly acid; clear smooth boundary.

Cr—17 inches; soft weathered brownish yellow (10YR 6/8) shale bedrock.

#### **Range in Characteristics**

*Solum thickness:* 5 to 19 inches

*Depth to bedrock:* 10 to 20 inches

*Reaction:* In unlimed areas, very strongly acid to moderately acid

##### *A horizon:*

Hue—7.5YR or 10YR

Value—3 or 4

Chroma—2 to 4

Fine-earth texture—silt loam

Rock fragment content—15 to 35 percent

##### *BE horizon:*

Hue—5YR to 10YR

Value—4 or 5

Chroma—3 to 6

Fine-earth texture—silt loam or loam

Rock fragment content—15 to 35 percent

##### *Bw horizon:*

Hue—5YR to 10YR

Value—4 to 6

Chroma—3 to 6

Fine-earth texture—silt loam or loam

Rock fragment content—35 to 80 percent

##### *C horizon (if it occurs):*

Hue—5YR to 2.5Y

Value—4 to 6

Chroma—3 to 6

Fine-earth texture—silt loam or loam

Rock fragment content—35 to 90 percent

## **Cottonbend Series**

*Physiographic province:* Valley and Ridge

*Landform:* Intermediate to high level stream terraces

*Flooding:* None

*Parent material:* Old alluvium derived from sandstone, siltstone, shale, limestone, and dolomitic limestone

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 3 to 15 percent

### Associated Soils

- Nicelytown soils, which are moderately well drained; in landform positions similar to those of the Cottonbend soils
- Purdy soils, which are poorly drained; in similar landform positions
- Shottower soils, which have a fine particle-size class; in similar landform positions
- Tygart soils, which are somewhat poorly drained; in similar landform positions

### Taxonomic Classification

Fine-loamy, siliceous, semiactive, mesic Typic Paleudults

### Typical Pedon

Cottonbend loam, 8 to 15 percent slopes; in Rockbridge County, Virginia; approximately 800 feet east-southeast of the intersection of Highways VA-612 and VA-807 on a bearing of 98 degrees along North Buffalo Creek, in the area of Sanford Hill, in an cornfield; Sugarloaf Mountain, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 42 minutes 49 seconds N. and long. 79 degrees 38 minutes 10 seconds W.

Ap1—0 to 5 inches; dark yellowish brown (10YR 3/4) loam; moderate medium platy structure parting to moderate fine and medium subangular blocky; common very fine and fine roots; 10 percent gravel; slightly acid; abrupt smooth boundary.

Ap2—5 to 11 inches; dark yellowish brown (10YR 4/4) loam; moderate fine platy structure parting to moderate medium subangular blocky; common very fine and fine roots; 5 percent gravel and 5 percent cobbles; slightly acid; clear wavy boundary.

BE—11 to 20 inches; strong brown (7.5YR 5/6) gravelly loam; weak fine and medium subangular blocky structure; few very fine and fine roots; 30 percent gravel; slightly acid; clear wavy boundary.

Bt1—20 to 27 inches; strong brown (7.5YR 5/8) gravelly loam; moderate medium subangular blocky structure; few very fine and fine roots; common distinct clay films on all faces of peds; 20 percent gravel; slightly acid; abrupt wavy boundary.

Bt2—27 to 43 inches; strong brown (7.5YR 5/8) loam; strong medium and coarse subangular blocky structure; few very fine roots; common distinct clay films on all faces of peds; 5 percent gravel; moderately acid; clear wavy boundary.

Bt3—43 to 54 inches; strong brown (7.5YR 5/8) clay loam; strong medium and coarse subangular blocky structure; common distinct clay films on all faces of peds; few black (10YR 2/1) manganese coatings on some faces of peds; 5 percent gravel; strongly acid; abrupt wavy boundary.

Bt4—54 to 68 inches; strong brown (7.5YR 5/8) very cobbly clay loam; weak medium subangular blocky structure; common distinct clay films on all faces of peds; 10 percent gravel, 35 percent cobbles and 10 percent stones; moderately acid.

### Range in Characteristics

*Solum thickness:* 60 inches or more

*Depth to bedrock:* 72 inches or more

*Reaction:* In unlimed areas, very strongly acid to slightly acid in the upper part and very strongly acid to moderately acid in the lower part

*Ap horizon:*

Hue—10YR

Value—3 or 4

Chroma—2 to 4

Fine-earth texture—loam

Rock fragment content—0 to 15 percent

*BE horizon:*

Hue—7.5YR to 2.5Y  
Value—5 or 6  
Chroma—4 to 6  
Fine-earth texture—fine sandy loam or loam  
Rock fragment content—0 to 35 percent

*Bt horizon (upper part):*

Hue—7.5YR or 10YR  
Value—4 or 5  
Chroma—4 to 8  
Fine-earth texture—loam, clay loam, sandy clay loam, or silty clay loam  
Rock fragment content—0 to 35 percent

*Bt horizon (lower part):*

Hue—5YR to 10YR  
Value—4 or 5  
Chroma—4 to 8  
Fine-earth texture—clay loam, sandy clay loam, or clay  
Rock fragment content—0 to 60 percent  
Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray may occur at a depth of 40 inches below the surface

## Coursey Series

*Physiographic province:* Valley and Ridge

*Landform:* Low to intermediate level stream terraces

*Flooding:* Rare to none

*Parent material:* Alluvium derived from sandstone, siltstone, and shale and, to a lesser extent, limestone and dolomitic limestone

*Drainage class:* Moderately well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 0 to 8 percent

### Associated Soils

- Alonzo soils, which are well drained; in landform positions similar to those of the Coursey soils
- Derroc soils, which have a loamy-skeletal particle-size class; on flood plains
- Gladehill soils, which have a mollic epipedon; on flood plains
- Philo soils, which have more sand than the Coursey soils; on flood plains
- Pope soils, which are well drained; on flood plains
- Wolfgap soils, which have a mollic epipedon; on flood plains

### Taxonomic Classification

Fine-loamy, siliceous, semiactive, mesic Aquic Hapludults

### Typical Pedon

Coursey loam, 2 to 7 percent slopes; in Shenandoah County, Virginia; approximately 0.4 mile east of the intersection of Highways VA-645 and VA-649, about 500 feet northwest of Highway VA-649, in pasture:

Ap—0 to 12 inches; brown (10YR 4/3) loam; moderate fine granular structure; friable, slightly sticky, slightly plastic; many fine and medium roots; 2 percent rounded gravel; neutral; clear smooth boundary.

- BA—12 to 17 inches; yellowish brown (10YR 5/4) loam; weak medium subangular blocky structure parting to moderate fine granular; friable, slightly sticky, slightly plastic; many fine and few medium roots; 2 percent rounded gravel; neutral; abrupt broken boundary.
- Bt1—17 to 28 inches; yellowish red (5YR 5/6) loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; many fine roots; many prominent yellowish brown (10YR 5/4) clay films on all faces of peds; 2 percent rounded gravel; neutral; clear smooth boundary.
- Bt2—28 to 34 inches; yellowish brown (10YR 5/4) clay loam; moderate medium subangular blocky structure; firm; moderately sticky, slightly plastic; many distinct yellowish brown (10YR 5/8) clay films on all faces of peds; many fine distinct grayish brown (10YR 5/2) iron depletions; many fine prominent red (2.5YR 4/8), many fine distinct brownish yellow (10YR 6/6) and few fine faint dark yellowish brown (10YR 4/4) masses of oxidized iron; 2 percent rounded gravel; very strongly acid; clear smooth boundary.
- Btg—34 to 58 inches; grayish brown (10YR 5/2) clay loam; strong coarse prismatic structure parting to moderate strong subangular blocky; firm, moderately sticky, moderately plastic; few fine irregular pores; many distinct yellowish brown (10YR 5/4) clay films on all faces of peds; common medium faint dark gray (10YR 4/1) iron depletions; many fine prominent red (2.5YR 4/6) masses of oxidized iron; 2 percent rounded gravel; strongly acid; clear smooth boundary.
- C—58 to 63 inches; strong brown (7.5YR 5/8) sandy clay loam; massive; firm, slightly sticky, slightly plastic; many medium prominent dark gray (N 4/) iron depletions; common medium faint reddish yellow (7.5YR 6/8) masses of oxidized iron; 2 percent rounded gravel; extremely acid.

#### **Range in Characteristics**

*Solum thickness:* 30 inches or more

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, extremely acid to strongly acid

#### *Ap horizon:*

Hue—10YR

Value—3 or 4

Chroma—2 to 4

Fine-earth texture—loam

Rock fragment content—0 to 15 percent

#### *BA horizon:*

Hue—7.5YR to 2.5Y

Value—4 to 6

Chroma—3 to 6

Fine-earth texture—loam

Rock fragment content—0 to 35 percent

#### *Bt horizon:*

Hue—5YR to 2.5Y

Value—4 to 6

Chroma—3 to 8

Fine-earth texture—loam, clay loam, or sandy clay loam

Rock fragment content—0 to 35 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray (chroma of 2 or less) within the upper 24 inches of the argillic horizon



*Btg horizon:*

Hue—7.5YR to 2.5Y

Value—4 to 6

Chroma—1 or 2

Fine-earth texture—loam, clay loam, or sandy clay loam

Rock fragment content—0 to 35 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and, in some pedons, redoximorphic depletions in shades of brown or gray within the gleyed matrix

*C horizon:*

Hue—7.5YR to 2.5Y

Value—4 to 6

Chroma—3 to 8

Fine-earth texture—loam, clay loam or sandy clay loam

Rock fragment content—0 to 35 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray

*Cg horizon (if it occurs):*

Hue—7.5YR to 2.5Y

Value—4 to 6

Chroma—1 or 2

Fine-earth texture—loam, clay loam, or sandy clay loam

Rock fragment content—0 to 35 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray within the gleyed matrix

## **Dekalb Series**

*Physiographic province:* Valley and Ridge

*Landform:* Mountains and hills

*Flooding:* None

*Parent material:* Residuum weathered from light yellowish brown to gray acid sandstone

*Drainage class:* Excessively drained

*Slowest saturated hydraulic conductivity:* High

*Depth class:* Moderately deep

*Slope range:* 3 to 80 percent

### **Associated Soils**

- Berks soils, which are moderately deep to shale bedrock; in landform positions similar to those of the Dekalb soils
- Caneyville soils, which are moderately deep to limestone bedrock; in similar landform positions
- Lehew soils, which are reddish brown; in similar landform positions
- Lily soils, which have a fine-loamy particle-size class; in similar landform positions
- Lodi soils, which are very deep to bedrock; in similar landform positions
- McClung soils, which are very deep to bedrock; in similar landform positions

### **Taxonomic Classification**

Loamy-skeletal, siliceous, active, mesic Typic Dystrudepts

### Typical Pedon

Dekalb channery fine sandy loam in an area of Dekalb, Lehew and Berks soils, 35 to 70 percent slopes, very stony; in Rockbridge County, Virginia; approximately 9,300 feet south-southwest of the intersection of Highways VA-780 and VA-39 on a bearing of 222 degrees, in the area of Bratton Mountain, in woodland; Millboro, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 57 minutes 13 seconds N. and long. 79 degrees 31 minutes 46 seconds W.

Oe—0 to 1 inch; moderately decomposed plant material.

A—1 to 2 inches; very dark gray (10YR 3/1) channery fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine and common medium and coarse roots; 18 percent sandstone channers; very strongly acid; abrupt smooth boundary.

E—2 to 4 inches; brown (10YR 5/3) channery fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine and common medium and coarse roots; 20 percent sandstone channers; very strongly acid; abrupt smooth boundary.

Bw1—4 to 12 inches; yellowish brown (10YR 5/6) channery fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine and common medium and coarse roots; 25 percent sandstone channers; very strongly acid; gradual wavy boundary.

Bw2—12 to 22 inches; yellowish brown (10YR 5/6) very channery sandy loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; common fine to coarse roots; 40 percent sandstone channers and 15 percent sandstone flagstones; very strongly acid; gradual wavy boundary.

C—22 to 32 inches; brownish yellow (10YR 6/6) extremely flaggy loamy sand; single grain; loose, nonsticky, nonplastic; few fine roots; 35 percent sandstone channers and 40 percent sandstone flagstones; very strongly acid; clear wavy boundary.

R—32 inches; hard fractured light gray sandstone bedrock.

### Range in Characteristics

*Solum thickness:* 20 to 40 inches

*Depth to bedrock:* 20 to 40 inches

*Reaction:* In unlimed areas, extremely acid to strongly acid

#### *A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Fine-earth texture—fine sandy loam

Rock fragment content—15 to 35 percent

#### *E horizon:*

Hue—10YR

Value—5 or 6

Chroma—2 to 4

Fine-earth texture—fine sandy loam, sandy loam, or loam

Rock fragment content—15 to 60 percent

#### *Bw horizon:*

Hue—7.5YR or 10YR

Value—5 or 6

Chroma—4 to 8

Fine-earth texture—fine sandy loam, sandy loam, or loam

Rock fragment content—15 to 60 percent; weighted average of 35 percent or more in the particle-size control section

*C horizon:*

Hue—7.5YR or 10YR

Value—5 or 6

Chroma—4 to 8

Fine-earth texture—sandy loam or loamy sand

Rock fragment content—35 to 85 percent

## **Derroc Series**

*Physiographic province:* Valley and Ridge

*Landform:* Flood plains along creeks and rivers mainly underlain by acid and nonacid sedimentary rocks throughout the county

*Flooding:* Frequent to rare

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* High

*Depth class:* Very deep

*Slope range:* 0 to 3 percent

### **Associated Soils**

- Gladehill soils, which have a coarse-loamy particle-size class; on flood plains mainly underlain by limestone and dolomitic limestone
- Irongate soils, which are moderately well drained; on flood plains mainly underlain by limestone and dolomitic limestone
- Lobdell soils, which are moderately well drained; on flood plains mainly underlain by limestone and dolomitic limestone
- Philo soils, which are moderately well drained; on flood plains mainly underlain by acid shale and siltstone
- Pope soils, which have a coarse-loamy particle-size class; on flood plains mainly underlain by acid shale and siltstone
- Sensabaugh soils, which have a fine-loamy particle-size class; on flood plains mainly underlain by limestone and dolomitic limestone
- Wolfgap soils, which have a fine-loamy particle-size class; on flood plains mainly underlain by limestone and dolomitic limestone

### **Taxonomic Classification**

Loamy-skeletal, siliceous, active, mesic Dystric Fluventic Eutrudepts

### **Typical Pedon**

Derroc very cobbly sandy loam, 0 to 3 percent slopes, frequently flooded (fig. 25); in Rockbridge County, Virginia; approximately 8,200 feet west-southwest of the intersection of Highways VA-608 and VA-56 on a bearing of 228 degrees, in the area of Big Mary's Creek along the South River, in woodland; Vesuvius, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 53 minutes 27 seconds N. and long. 79 degrees 13 minutes 05 seconds W.

A1—0 to 3 inches; dark yellowish brown (10YR 3/4) very cobbly sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common very fine to coarse roots; 15 percent rounded gravel and 30 percent rounded cobbles; neutral; abrupt wavy boundary.

A2—3 to 9 inches; dark brown (10YR 3/3) cobbly sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; few very fine to coarse roots; 5 percent rounded gravel and 15 percent rounded cobbles; neutral; clear wavy boundary.





**Figure 25.—A soil profile of the top 24 inches of Derroc very cobbly sandy loam. The water-worn cobbles are indicative of this soil's alluvial origin. Depth is marked in inches.**

Bw1—9 to 27 inches; dark yellowish brown (10YR 4/4) very cobbly sandy loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; few very fine to coarse roots; 15 percent rounded gravel and 25 percent rounded cobbles; neutral; gradual wavy boundary.

Bw2—27 to 33 inches; dark yellowish brown (10YR 4/6) very cobbly loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; few very fine to coarse roots; 15 percent rounded gravel, 25 percent rounded cobbles and 10 percent rounded stones; neutral; gradual wavy boundary.

C—33 to 63 inches; dark yellowish brown (10YR 4/4) very cobbly loamy sand; single grain; loose; few very fine roots; 15 percent rounded gravel, 30 percent rounded cobbles and 10 percent rounded stones; neutral.

#### **Range in Characteristics**

*Solum thickness:* 20 to 40 inches

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, moderately acid to neutral

#### *A1 or A horizon:*

Hue—7.5YR or 10YR

Value—2 to 4

Chroma—2 to 4

Fine-earth texture—sandy loam

Rock fragment content—35 to 60 percent

#### *A2 or BA horizon:*

Hue—7.5YR or 10YR

Value—2 to 4

Chroma—2 to 4

Fine-earth texture—sandy loam or loam

Rock fragment content—15 to 60 percent

#### *Bw horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—4 to 6

Fine-earth texture—sandy loam or loam

Rock fragment content—30 to 80 percent

#### *C horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Fine-earth texture—loamy sand or sandy loam

Rock fragment content—30 to 80 percent

## **Edneytown Series**

*Physiographic province:* Blue Ridge

*Landform:* Mountains

*Flooding:* None

*Parent material:* Residuum from granite, granulite, and charnockite

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 3 to 70 percent

#### **Associated Soils**

- Myersville soils, which are deep to greenstone bedrock; in landform positions similar to those of the Edneytown soils
- Peaks soils, which are moderately deep to bedrock; in similar landform positions
- Pignut soils, which are moderately deep to greenstone bedrock; in similar landform positions
- Saunook soils, which are very deep to bedrock; in colluvial positions
- Thunder soils, which are very deep to bedrock; in colluvial positions

### **Taxonomic Classification**

Fine-loamy, mixed, active, mesic Typic Hapludults

### **Typical Pedon**

Edneytown loam in an area of Peaks-Edneytown complex, 35 to 70 percent slopes, very rocky; in Rockbridge County, Virginia; approximately 4,300 feet south-southwest of the intersection of Forest Service Road 105 and U.S. Highway 60 on a bearing of 197 degrees, in the area of Indian Gap, in woodland; Buena Vista, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 43 minutes 10 seconds N. and long. 79 degrees 19 minutes 04 seconds W.

Oi—0 to 1 inch; slightly decomposed plant material.

A—1 to 4 inches; very dark grayish brown (10YR 3/2) loam; weak fine granular structure; friable, nonsticky, nonplastic; many very fine to coarse roots; very strongly acid; abrupt smooth boundary.

E—4 to 8 inches; brown (10YR 4/3) loam; moderate medium granular structure; friable, nonsticky, nonplastic; many very fine to coarse roots; 2 percent gravel; very strongly acid; gradual wavy boundary.

Bt1—8 to 23 inches; yellowish brown (10YR 5/4) sandy clay loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; many very fine to coarse roots; common distinct clay films on all faces of peds; 2 percent gravel; very strongly acid; gradual wavy boundary.

Bt2—23 to 36 inches; yellowish brown (10YR 5/6) sandy clay loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine to medium roots; common distinct clay films on all faces of peds; 5 percent gravel; very strongly acid; clear smooth boundary.

C—36 to 64 inches; strong brown (7.5YR 5/6) sandy loam; massive; friable, nonsticky, nonplastic; few very fine to medium roots; 5 percent gravel; very strongly acid; clear irregular boundary.

Cr—64 inches; soft weathered charnockite bedrock.

### **Range in Characteristics**

*Solum thickness:* 20 inches or more

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, very strongly acid or strongly acid

#### *A horizon:*

Hue—7.5YR or 10YR

Value—2 to 4

Chroma—1 to 4

Fine-earth texture—loam

Rock fragment content—0 to 15 percent

#### *E horizon:*

Hue—7.5YR or 10YR

Value—4 to 7

Chroma—3 to 6

Fine-earth texture—loam, fine sandy loam, or sandy loam

Rock fragment content—0 to 35 percent

#### *Bt horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—loam, clay loam or sandy clay loam

Rock fragment content—0 to 35 percent



*C horizon:*

Hue—7.5YR or 10YR

Value—5 to 8

Chroma—3 to 8

Fine-earth texture—loam, fine sandy loam, sandy loam, or loamy sand

Rock fragment content—0 to 35 percent

## Escatawba Series

*Physiographic province:* Valley and Ridge

*Landform:* Base of slopes on hills and mountains

*Flooding:* None

*Parent material:* Old colluvium derived from acid sandstone, siltstone, and shale

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 3 to 15 percent

### Associated Soils

- Berks soils, which are moderately deep to bedrock; on adjacent mountains
- Dekalb soils, which are moderately deep to bedrock; on adjacent mountains
- Laidig soils, which have a fragipan; in younger colluvial positions
- Lehew soils, which are moderately deep to bedrock; on adjacent mountains
- Lily soils, which are moderately deep to bedrock; on adjacent mountains
- Oriskany soils, which have a loamy-skeletal particle-size class; in younger colluvial positions
- Weikert soils, which are shallow to bedrock; on adjacent mountains

### Taxonomic Classification

Fine-loamy, siliceous, semiactive, mesic Oxyaquic Paleudults

### Typical Pedon

Escatawba loam, 3 to 8 percent slopes, very stony (fig. 26); in Alleghany County, Virginia; approximately 1,400 feet west-northwest of the intersection of Highway VA-613 and Forest Service Road 351 on a bearing of 276 degrees, in the area of Spice Run, in planted pine; Jordan Mines, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 39 minutes 44 seconds N. and long. 80 degrees 04 minutes 08 seconds W.

Oe—0 to 1 inch; moderately decomposed plant material.

A—1 to 3 inches; very dark grayish brown (10YR 3/2) loam; weak fine granular structure; very friable, nonsticky, nonplastic; many very fine and fine and common medium roots; 5 percent gravel; very strongly acid; clear smooth boundary.

BE—3 to 17 inches; yellowish brown (10YR 5/4) loam; weak medium subangular blocky structure; very friable, slightly sticky, slightly plastic; common very fine and fine and few medium roots; 2 percent gravel; very strongly acid; gradual smooth boundary.

Bt1—17 to 30 inches; yellowish brown (10YR 5/6) loam; moderate medium subangular blocky structure; very friable, slightly sticky, moderately plastic; few very fine to medium roots; few distinct strong brown (7.5YR 5/6) clay films on all faces of peds; 2 percent gravel; strongly acid; clear smooth boundary.

2Bt2—30 to 44 inches; strong brown (7.5YR 5/6) clay loam; strong medium subangular blocky structure; friable, moderately sticky, moderately plastic; few very fine and fine roots; common distinct strong brown (7.5YR 5/6) clay films and many prominent light yellowish brown (10YR 6/4) silt coatings on all faces of peds;

common medium faint yellowish red (5YR 5/6) masses of oxidized iron; 12 percent gravel; strongly acid; gradual smooth boundary.

2Bt3—44 to 50 inches; variegated yellowish brown (10YR 5/6) and strong brown (7.5YR 5/6) gravelly clay loam; strong medium subangular blocky structure; friable, moderately sticky, moderately plastic; few very fine and fine roots; common distinct strong brown (7.5YR 5/6) clay films on all faces of peds; common fine distinct pale brown (10YR 6/3) iron depletions; 17 percent gravel; strongly acid; gradual smooth boundary.

2Bt4—50 to 65 inches; strong brown (7.5YR 5/6) cobbly clay loam; strong medium subangular blocky structure; friable, moderately sticky, moderately plastic; few very fine roots; common distinct strong brown (7.5YR 5/6) clay films on all faces of peds; common medium prominent pinkish gray (7.5YR 6/2) iron depletions; many medium distinct yellowish red (5YR 5/8) masses of oxidized iron; 10 percent gravel and 15 percent cobbles; strongly acid.

#### Range in Characteristics

*Solum thickness:* 60 inches or more

*Depth to bedrock:* 60 inches or more

*Depth to 2Bt horizon:* 25 to 40 inches

*Reaction:* In unlimed areas, extremely acid to strongly acid in the A, E and BE horizons and very strongly acid or strongly acid in the Bt and 2Bt horizons

*A horizon:*

Hue—10YR

Value—2 to 4

Chroma—1 to 3



Figure 26.—A soil profile of Escatawba loam. These soils are rated “very limited” for septic tank absorption fields because of a water table in the solum. Depth is marked in inches.

Fine-earth texture—loam  
Rock fragment content—0 to 15 percent

*E and BE horizons:*

Hue—10YR or 2.5Y  
Value—5 or 6  
Chroma—2 to 6  
Fine-earth texture—loam, silt loam, or fine sandy loam  
Rock fragment content—0 to 25 percent

*Bt horizon:*

Hue—7.5YR to 2.5Y  
Value—5 or 6  
Chroma—4 to 8  
Fine-earth texture—loam, silt loam, clay loam, or silty clay loam; weighted average of 18 to 35 percent clay in the particle-size control section  
Rock fragment content—0 to 35 percent

*2BT horizon:*

Hue—2.5YR to 10YR  
Value—4 to 6  
Chroma—4 to 8  
Fine-earth texture—clay, clay loam, or silty clay loam typically with 35 percent or more clay  
Rock fragment content—10 to 35 percent in the upper part and 15 to 50 percent in the lower part  
Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray may occur at a depth of 30 to 40 inches below the surface

## Frederick Series

*Physiographic province:* Valley and Ridge

*Landform:* Hills

*Flooding:* None

*Parent material:* Residuum weathered from limestone, cherty limestone, and dolomitic limestone (fig. 27)

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 3 to 55 percent

### Associated Soils

- Caneyville soils, which are moderately deep to bedrock; in landform positions similar to those of the Frederick soils
- Opequon soils, which are shallow to bedrock; in similar landform positions
- Slabtown soils, which have a fine-loamy particle-size class; in local colluvial positions
- Watahala soils, which have a fine-loamy over clayey particle-size class; in similar landform positions

### Taxonomic Classification

Fine, mixed, semiactive, mesic Typic Paleudults



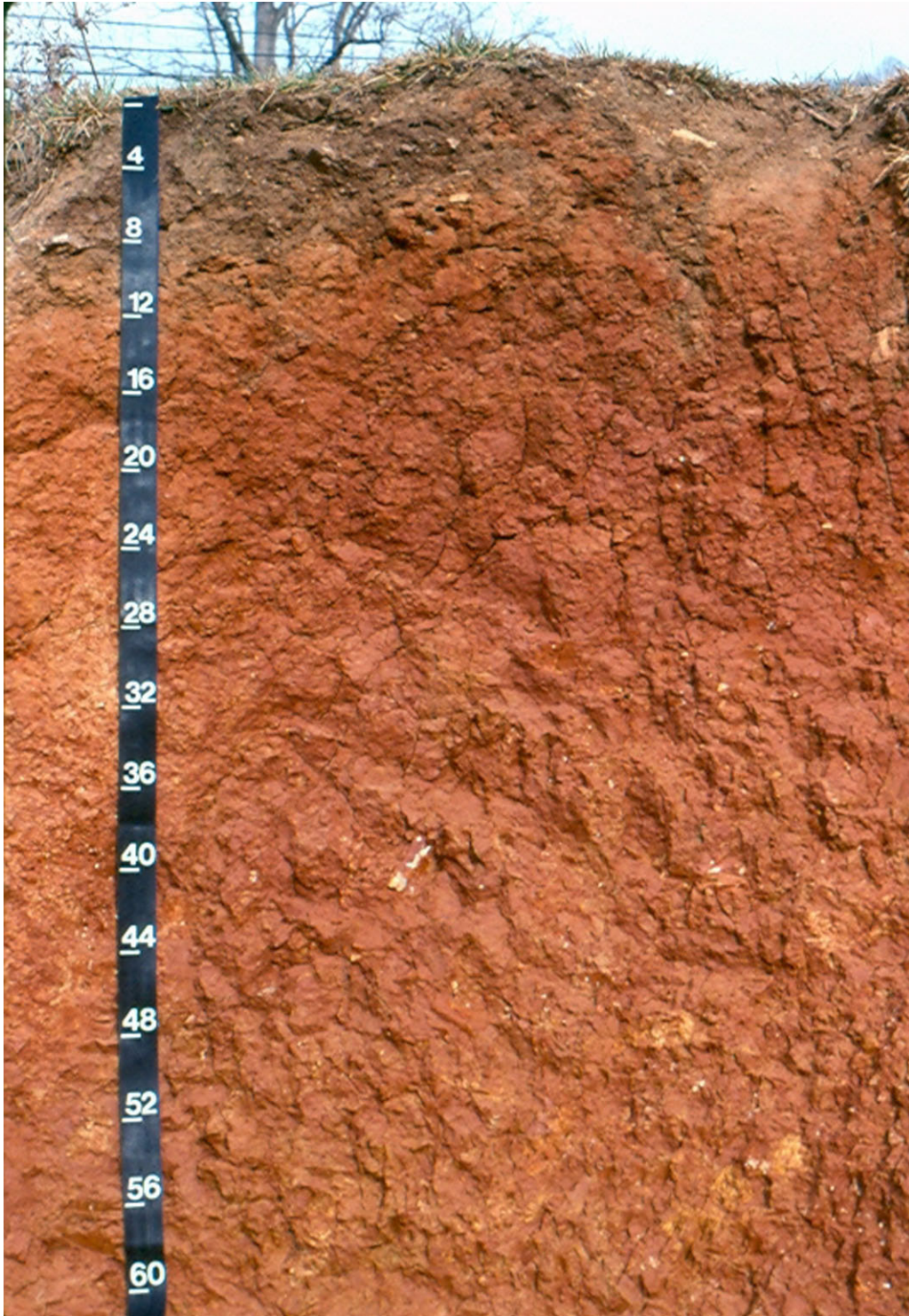


Figure 27.—A soil profile of Frederick gravelly silt loam in a cultivated field. The argillic horizon typically begins directly below the topsoil layer and extends to below a depth of 60 inches. Depth is marked in inches.

### Typical Pedon

Frederick silt loam, 8 to 15 percent slopes; in Rockbridge County, Virginia; approximately 2,200 feet south-southwest of the intersection of Highways VA-726 and VA-722 on a bearing of 217 degrees, in the area of McClung Mill, in pasture; Brownsburg, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 56 minutes 23 seconds N. and long. 79 degrees 19 minutes 33 seconds W.

Ap—0 to 9 inches; brown (7.5YR 4/4) silt loam; weak medium granular structure; friable, slightly sticky, nonplastic; many very fine and fine roots; 5 percent chert gravel; moderately acid; abrupt smooth boundary.

Bt1—9 to 16 inches; yellowish red (5YR 4/6) silty clay loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine and fine roots; few distinct clay films on all faces of peds; 4 percent chert gravel; moderately acid; clear smooth boundary.

Bt2—16 to 25 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; common very fine roots; many distinct clay films on all faces of peds; moderately acid; gradual wavy boundary.

Bt3—25 to 41 inches; red (2.5YR 4/6) clay; strong medium subangular blocky structure; firm, moderately sticky, moderately plastic; few very fine roots; many distinct clay films on all faces of peds; moderately acid; gradual wavy boundary.

Bt4—41 to 74 inches; red (2.5YR 4/6) clay; common medium distinct strong brown (7.5YR 5/6) mottles; strong medium subangular blocky structure; firm, moderately sticky, moderately plastic; few very fine roots; many distinct clay films on all faces of peds; very strongly acid.

### Range in Characteristics

*Solum thickness:* 60 inches or more

*Depth to bedrock:* 72 inches or more

*Reaction:* In unlimed areas, very strongly acid to moderately acid

#### *Ap and A horizons:*

Hue—5YR to 10YR

Value—4 or 5

Chroma—3 to 6

Fine-earth texture—silt loam or loam

Rock fragment content—0 to 35 percent

#### *E and BE horizons (if they occur):*

Hue—7.5YR or 10YR

Value—5 to 7

Chroma—3 to 8

Fine-earth texture—silt loam, loam, or fine sandy loam

Rock fragment content—0 to 45 percent

#### *Bt horizon (upper part):*

Hue—2.5YR to 7.5YR

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—silty clay loam, clay loam, clay, or silty clay

Rock fragment content—0 to 15 percent

#### *Bt horizon (lower part):*

Hue—2.5YR or 5YR

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—clay or silty clay

Rock fragment content—0 to 15 percent

Other features—in some pedons horizon has mottles in shades of red, yellow, brown, and gray that are inherited from the parent material

## Gladehill Series

*Physiographic province:* Valley and Ridge

*Landform:* Flood plains along rivers mainly underlain by limestone and dolomitic limestone

*Flooding:* Occasional

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* High

*Depth class:* Very deep

*Slope range:* 0 to 3 percent

### Associated Soils

- Derroc soils, which have a loamy-skeletal particle-size class; on flood plains throughout the county
- Holly soils, which are poorly drained; on flood plains throughout the county
- Irongate soils, which are moderately well drained; on flood plains in positions similar to those of the Gladehill soils
- Orrville soils, which are somewhat poorly drained; on flood plains throughout the county
- Wolfgap soils, which have less sand than the Gladehill soils; in similar positions on flood plains

### Taxonomic Classification

Coarse-loamy, siliceous, superactive, mesic Fluventic Hapludolls

### Typical Pedon

Gladehill fine sandy loam, 0 to 3 percent slopes, occasionally flooded; in Botetourt County, Virginia; approximately 1.0 mile southeast of Springwood, 3,000 feet southwest of the intersection of Highways VA-630 and VA-43, and 300 feet north of the James River, in hayland; Buchanan, Virginia USGS 7.5 Minute Quadrangle; approximate lat. 37 degrees 32 minutes 28 seconds N. and long. 79 degrees 43 minutes 58 seconds W.

Ap—0 to 5 inches; very dark grayish brown (10YR 3/2) fine sandy loam, dark yellowish brown (10YR 4/4) dry; weak fine granular structure; friable, slightly sticky, nonplastic; many fine and medium roots; slightly acid; abrupt smooth boundary.

Bw1—5 to 12 inches; dark brown (10YR 3/3) fine sandy loam, brown (10YR 5/3) dry; weak medium subangular blocky structure; friable, slightly sticky, nonplastic; common fine roots; slightly acid; clear smooth boundary.

Bw2—12 to 42 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; friable, slightly sticky, nonplastic; few fine roots; 5 percent rounded gravel; slightly acid; clear smooth boundary.

C1—42 to 60 inches; dark yellowish brown (10YR 4/4) fine sandy loam; massive; friable, slightly sticky, nonplastic; 10 percent rounded gravel; neutral; clear smooth boundary.

C2—60 to 65 inches; dark brown (10YR 3/3) fine sandy loam; massive; friable, slightly sticky, nonplastic; neutral; abrupt smooth boundary.



C3—65 to 72 inches; brown (10YR 4/3) fine sandy loam; massive; friable, slightly sticky, nonplastic; neutral.

#### **Range in Characteristics**

*Solum thickness:* 30 inches or more

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, slightly acid to slightly alkaline

#### *Ap horizon:*

Thickness—10 to 24 inches

Hue—7.5YR or 10YR

Value—2 or 3 moist; 5 or less dry

Chroma—2 or 3

Fine-earth texture—fine sandy loam

Rock fragment content—0 to 15 percent

#### *Bw horizon:*

Hue—7.5YR or 10YR

Value—3 to 5

Chroma—3 to 6

Fine-earth texture—fine sandy loam, sandy loam, or loam

Rock fragment content—0 to 15 percent

#### *C horizon:*

Hue—7.5YR or 10YR

Value—3 to 5

Chroma—3 to 6

Fine-earth texture—fine sandy loam, sandy loam, or loam

Rock fragment content—0 to 35 percent

## **Groseclose Series**

*Physiographic province:* Valley and Ridge

*Landform:* Hills

*Flooding:* None

*Parent material:* Residuum weathered from limestone, dolomitic limestone, siltstone, and shale and, in some areas, calcareous shale and siltstone

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 0 to 55 percent

#### **Associated Soils**

- Chiswell soils, which are shallow to bedrock; in landform positions similar to those of the Groseclose soils
- Litz soils, which are moderately deep to bedrock; in similar landform positions
- Needmore soils, which are moderately deep to bedrock; in similar landform positions
- Opequon soils, which are shallow to bedrock; in similar landform positions
- Slabtown soils, which have a fine-loamy particle-size class; in local colluvial positions

#### **Taxonomic Classification**

Fine, mixed, semiactive, mesic Typic Hapludults

### Typical Pedon

Groseclose silt loam in an area of Litz-Chiswell-Groseclose, 15 to 35 percent slopes; in Rockbridge County, Virginia; approximately 7,800 feet south-southwest of the northern intersection of Highways VA-501 and VA-663 on a bearing of 222 degrees, in the area of Brady Hill, in a road cut bordering woodland and abandoned hayland; Glasgow, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 41 minutes 12 seconds N. and long. 79 degrees 24 minutes 07 seconds W.

Oe—0 to 1 inch; moderately decomposed plant material.

Ap—1 to 3 inches; dark yellowish brown (10YR 4/4) silt loam; moderate fine granular structure; friable, slightly sticky, moderately plastic; many fine to coarse roots; 2 percent gravel; strongly acid; clear smooth boundary.

BA—3 to 8 inches; yellowish brown (10YR 5/4) silt loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, moderately plastic; many fine to coarse roots; 2 percent gravel; strongly acid; clear smooth boundary.

Bt1—8 to 15 inches; strong brown (7.5YR 5/6) silty clay loam; moderate fine and medium subangular blocky structure; friable, moderately sticky, moderately plastic; common fine to coarse roots; common distinct clay films on all faces of peds; 2 percent gravel; strongly acid; clear wavy boundary.

Bt2—15 to 27 inches; strong brown (7.5YR 5/6) clay; moderate fine and medium subangular blocky structure; firm, moderately sticky, moderately plastic; common fine to coarse roots; common prominent clay films on all faces of peds; 2 percent channers; strongly acid; gradual wavy boundary.

Bt3—27 to 55 inches; strong brown (7.5YR 5/8) clay; moderate fine and medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots; common prominent clay films on all faces of peds; 5 percent channers; strongly acid; gradual wavy boundary.

C—55 to 65 inches; strong brown (7.5YR 5/8) silty clay; massive; firm, slightly sticky, slightly plastic; 8 percent channers; strongly acid.

### Range in Characteristics

*Solum thickness:* 30 to 60 inches

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, very strongly acid or strongly acid

#### *Ap horizon:*

Hue—7.5YR or 10YR

Value—3 to 5

Chroma—3 to 6

Fine-earth texture—silt loam

Rock fragment content—0 to 15 percent

#### *BA horizon:*

Hue—7.5YR to 10YR

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—silt loam or loam

Rock fragment content—0 to 35 percent

#### *Bt horizon:*

Hue—5YR to 10YR

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—clay loam, silty clay loam, silty clay, or clay

Rock fragment content—0 to 35 percent

*C horizon:*

Hue—5YR to 10YR

Value—4 to 6

Chroma—3 to 8

Fine-earth texture—silt loam, silty clay loam, clay loam, silty clay, or clay

Rock fragment content—0 to 35 percent

## Holly Series

*Physiographic province:* Valley and Ridge

*Landform:* Depressions and backswamps on flood plains along creeks and rivers  
mainly underlain by acid and nonacid sedimentary rocks throughout the county

*Flooding:* Occasional

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone,  
siltstone, and shale

*Drainage class:* Poorly drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 0 to 3 percent

### Associated Soils

- Derroc soils, which are well drained; in flood plain positions that are similar to those of the Holly soils but better drained
- Gladehill soils, which are well drained; in flood plain positions that are similar but better drained
- Lobdell soils, which are moderately well drained; in flood plain positions that are similar but better drained
- Orrville soils, which are somewhat poorly drained; in flood plain positions similar to those of the Holly soils
- Philo soils, which are moderately well drained; in flood plain positions that are similar but better drained
- Pope soils, which are well drained; in flood plain positions that are similar but better drained
- Sensabaugh soils, which are well drained; in flood plain positions that are similar but better drained
- Wolfgap soils, which are well drained; in flood plain positions that are similar but better drained

### Taxonomic Classification

Fine-loamy, mixed, active, nonacid, mesic Fluvaquentic Endoaquepts

### Typical Pedon

Holly silt loam, 0 to 3 percent slopes, frequently flooded; in Pocahontas County, West Virginia; approximately 1.25 miles east-southeast of the intersection of U.S. Highway 219 and Airport Road on a bearing of 112 degrees, in pasture; Marlinton, West Virginia USGS 7.5 Minute Quadrangle; approximate lat. 38 degrees 13 minutes 53 seconds N. and long. 80 degrees 04 minutes 09 seconds W.

A—0 to 4 inches; very dark gray (10YR 3/1) silt loam; moderate fine granular structure; friable; many very fine and fine roots; many fine prominent dark brown (7.5YR 3/4) iron-manganese masses; 2 percent rounded gravel; moderately acid; abrupt smooth boundary.

Bg1—4 to 9 inches; dark gray (10YR 4/1) silt loam; moderate fine subangular blocky structure; friable; common very fine and fine roots; common fine prominent dark brown (7.5YR 3/4) and common fine distinct dark yellowish brown (10YR 3/4)

- iron-manganese masses; 2 percent rounded gravel; moderately acid; abrupt wavy boundary.
- Bg2—9 to 11 inches; dark gray (10YR 4/1) sandy loam; weak medium subangular blocky structure; friable; common very fine and fine roots; few fine prominent dark brown (7.5YR 3/4) iron-manganese masses; 2 percent rounded gravel; moderately acid; abrupt wavy boundary.
- Bg3—11 to 15 inches; dark gray (10YR 4/1) silt loam; moderate fine and medium subangular blocky structure; friable; common very fine and fine roots; common fine prominent dark brown (7.5YR 3/4) iron-manganese masses; 2 percent rounded gravel; strongly acid; abrupt wavy boundary.
- Bg4—15 to 21 inches; grayish brown (2.5Y 5/2) silt loam; moderate medium and coarse subangular blocky structure; friable; few very fine roots; many fine prominent dark yellowish brown (10YR 4/6) and yellowish brown (10YR 5/6) and common fine prominent brown (7.5YR 4/4) masses of oxidized iron; 2 percent rounded gravel; moderately acid; abrupt wavy boundary.
- Bg5—21 to 42 inches; light brownish gray (2.5Y 6/2) silt loam; moderate medium and coarse prismatic structure parting to medium and coarse subangular blocky; friable; few very fine roots; many medium prominent dark yellowish brown (10YR 4/6) and common medium prominent brown (7.5YR 4/4) masses of oxidized iron; 2 percent rounded gravel; moderately acid; abrupt smooth boundary.
- Cg1—42 to 44 inches; grayish brown (2.5Y 5/2) sandy loam; massive; friable; common fine and medium faint brown (10YR 5/3) masses of oxidized iron; 2 percent rounded gravel; moderately acid; abrupt smooth boundary.
- Cg2—44 to 52 inches; gray (10YR 5/1) silt loam; massive; friable; many medium prominent brown (7.5YR 4/4) masses of oxidized iron, and many medium prominent dark brown (7.5YR 3/4) iron-manganese masses; 2 percent rounded gravel; moderately acid; abrupt smooth boundary.
- Cg3—52 to 54 inches; grayish brown (10YR 5/2) sandy loam; massive; friable; many fine and medium prominent yellowish brown (10YR 5/6) and many fine and medium faint brown (10YR 5/3) masses of oxidized iron, and few fine and medium distinct dark brown (7.5YR 3/4) iron-manganese masses; 2 percent rounded gravel; moderately acid; abrupt smooth boundary.
- Cg4—54 to 65 inches; gray (5Y 5/1) silt loam; massive; friable; few medium prominent yellowish brown (10YR 5/6) masses of oxidized iron; 2 percent gravel; moderately acid.

#### Range in Characteristics

*Solum thickness:* 20 to 44 inches

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, moderately acid or slightly acid in the A horizon, strongly acid to slightly acid in the upper part of the B horizon, and moderately acid or slightly acid in the lower part of the B horizon and in the C horizon

#### *A horizon:*

Hue—10YR

Value—2 to 4

Chroma—1 or 2

Fine-earth texture—silt loam

Rock fragment content—0 to 10 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and, in some pedons, redoximorphic depletions in shades of brown or gray within the gleyed matrix

*Bg horizon:*

Hue—10YR to 5Y

Value—4 to 6

Chroma—1 or 2

Fine-earth texture—sandy loam, loam, silt loam, or silty clay loam

Rock fragment content—0 to 15 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and, in some pedons, redoximorphic depletions in shades of brown or gray within the gleyed matrix

*Cg horizon:*

Hue—10YR to 5Y

Value—4 to 6

Chroma—1 or 2

Fine-earth texture—sandy loam, loam, silt loam, or silty clay loam

Rock fragment content—0 to 25 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and, in some pedons, redoximorphic depletions in shades of brown or gray within the gleyed matrix

## **Ingle dove Series**

*Physiographic province:* Valley and Ridge

*Landform:* Low level stream terraces

*Flooding:* Rare

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 0 to 3 percent

### **Associated Soils**

- Botetourt soils, which are moderately well drained; in landform positions similar to those of the Ingle dove soils
- Derroc soils, which have a loamy-skeletal particle-size class; on flood plains
- Gladehill soils, which have a mollic epipedon; on flood plains
- Lobdell soils, which are moderately well drained; on flood plains
- Sensabaugh soils, which do not have an argillic horizon; on flood plains
- Wolfgang soils, which have a mollic epipedon; on flood plains

### **Taxonomic Classification**

Fine-loamy, siliceous, semiactive, mesic Ultic Hapludalfs

### **Typical Pedon**

Ingle dove loam, 2 to 7 percent slopes, rarely flooded; in Washington County, Virginia; approximately 1.7 miles east of the intersection of Highway VA-614 and the Washington-Scott County line, and 0.63 mile southwest of the intersection of Highways VA-615 and VA-614, in pasture; Mendota, Virginia USGS 7.5 Minute Quadrangle; lat. 36 degrees 41 minutes 50 seconds N. and long. 82 degrees 18 minutes 58 seconds W.

Ap—0 to 13 inches; dark yellowish brown (10YR 4/4) loam; weak fine granular structure; friable, slightly sticky, slightly plastic; common fine roots; 5 percent rounded gravel and 5 percent rounded cobbles; moderately acid; clear smooth boundary.

Bt1—13 to 52 inches; strong brown (7.5YR 5/6) loam; weak medium subangular blocky structure; friable, moderately sticky, slightly plastic; few fine roots; few distinct clay films on all faces of peds; many fine black (10YR 2/1) manganese masses; 1 percent rounded gravel and 1 percent rounded cobbles; moderately acid; gradual smooth boundary.

Bt2—52 to 65 inches; dark yellowish brown (10YR 4/6) clay loam; weak medium angular blocky structure; firm, moderately sticky, moderately plastic; common distinct clay films on all faces of peds; few fine distinct pale brown (10YR 6/3) iron depletions; few fine prominent yellowish red (5YR 5/8) masses of oxidized iron, and many medium black (10YR 2/1) manganese masses; moderately acid.

#### **Range in Characteristics**

*Solum thickness:* 30 inches or more

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, very strongly acid to neutral in the A horizon and upper part of the B horizon and moderately acid to neutral in the lower part of the B horizon and in the C horizon

#### *Ap horizon:*

Hue—5YR to 10YR

Value—3 to 5

Chroma—3 or 4

Fine-earth texture—loam

Rock fragment content—0 to 15 percent

#### *Bt horizon:*

Hue—5YR to 10YR

Value—4 or 5

Chroma—4 to 8

Fine-earth texture—loam, sandy clay loam, or clay loam

Rock fragment content—0 to 15 percent in the upper part; 0 to 60 percent in the lower part

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray may occur at a depth of 40 inches below the surface

#### *C horizon (if it occurs):*

Hue—5YR to 10YR

Value—4 or 5

Chroma—4 to 8

Fine-earth texture—loamy sand, sandy loam, loam, sandy clay loam, or clay loam

Rock fragment content—0 to 60 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray may occur at a depth below 40 inches from the surface

## **Irongate Series**

*Physiographic province:* Valley and Ridge

*Landform:* Flood plains along rivers mainly underlain by limestone and dolomitic limestone

*Flooding:* Occasional

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

*Drainage class:* Moderately well drained

*Slowest saturated hydraulic conductivity:* Moderately high



## Soil Survey of Rockbridge County, Virginia

*Depth class:* Very deep

*Slope range:* 0 to 3 percent

### Associated Soils

- Derroc soils, which have a loamy-skeletal particle-size class; on flood plains throughout the county
- Holly soils, which are poorly drained; on flood plains throughout the county
- Gladehill soils, which are well drained; in flood plain positions similar to those of the Irongate soils
- Orrville soils, which are somewhat poorly drained; on flood plains throughout the county
- Wolfgap soils, which are well drained; in similar flood plain positions

### Taxonomic Classification

Coarse-loamy, siliceous, active, mesic Fluvaquentic Hapludolls

### Typical Pedon

Irongate fine sandy loam, 0 to 3 percent slopes, occasionally flooded; in Bath County, Virginia; approximately 1.2 miles west of the intersection of Highways VA-39 and VA-621 and 300 yards southwest of Highway VA-39, in hayland; Warm Springs, Virginia USGS 7.5 Minute Quadrangle; lat. 38 degrees 04 minutes 31 seconds N. and long. 79 degrees 50 minutes 45 seconds W.

A1—0 to 10 inches; dark brown (10YR 3/3) fine sandy loam, brown (10YR 5/3) dry; weak fine granular structure; friable, nonsticky, nonplastic; common very fine and fine roots; moderately acid; clear smooth boundary.

A2—10 to 21 inches; very dark grayish brown (10YR 3/2) fine sandy loam, brown (10YR 4/3) dry; weak medium granular structure; friable, nonsticky, nonplastic; common very fine and fine roots; slightly acid; abrupt smooth boundary.

Bw1—21 to 30 inches; brown (10YR 4/3) sandy loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; few very fine and fine roots; slightly acid; gradual wavy boundary.

Bw2—30 to 42 inches; brown (10YR 4/3) sandy loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; few very fine roots; common medium faint dark grayish brown (10YR 4/2) iron depletions; common fine prominent strong brown (7.5YR 5/8) masses of oxidized iron; slightly acid; gradual wavy boundary.

C1—42 to 55 inches; brown (10YR 5/3) sandy loam; massive; friable, nonsticky, nonplastic; common medium faint dark grayish brown (10YR 4/2) iron Depletions; common fine prominent strong brown (7.5YR 5/8) masses of oxidized iron; 2 percent rounded gravel; slightly acid; abrupt wavy boundary.

C2—55 to 62 inches; brown (10YR 4/3) gravelly sandy loam; single grain; very friable, nonsticky, nonplastic; common fine faint dark grayish brown (10YR 4/2) iron depletions; common fine prominent strong brown (7.5YR 5/8) masses of oxidized iron; 30 percent rounded gravel; slightly acid.

### Range in Characteristics

*Solum thickness:* 30 to 50 inches

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, moderately acid to neutral

*A horizon:*

Thickness—10 to 24 inches

Hue—10YR

Value—2 or 3 moist; 5 or less dry

Chroma—2 or 3  
Fine-earth texture—fine sandy loam  
Rock fragment content—0 to 15 percent

*Bw horizon:*

Hue—7.5YR or 10YR  
Value—3 to 5  
Chroma—3 to 6  
Fine-earth texture—sandy loam, loam, or fine sandy loam  
Rock fragment content—0 to 15 percent  
Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray (chroma of 2 or less) within a depth of 30 inches from the soil surface

*C horizon:*

Hue—7.5YR or 10YR  
Value—3 to 5  
Chroma—2 to 6  
Fine-earth texture—loam, fine sandy loam, or sandy loam; some pedons are stratified with thin horizons of loamy sand  
Rock fragment content—0 to 35 percent  
Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray

## Laidig Series

*Physiographic province:* Valley and Ridge

*Landform:* Sideslopes and base of slopes on hills and mountains, and in drainageways

*Flooding:* None

*Parent material:* Colluvium derived from sandstone, siltstone, and shale

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately low

*Depth class:* Very deep

*Slope range:* 3 to 35 percent

### Associated Soils

- Berks soils, which are moderately deep to bedrock; on adjacent mountains
- Dekalb soils, which are moderately deep to bedrock; on adjacent mountains
- Escatawba soils, which do not have a fragipan; in older colluvial positions
- Lehew soils, which are moderately deep to bedrock; on adjacent mountains
- Lily soils, which are moderately deep to bedrock; on adjacent mountains
- Oriskany soils, which have a loamy-skeletal particle-size class; in landform positions similar to those of the Laidig soils
- Weikert soils, which are shallow to bedrock; on adjacent mountains

### Taxonomic Classification

Fine-loamy, siliceous, active, mesic Typic Fragiudults

### Typical Pedon

Laidig channery loam, 15 to 35 percent slopes, very stony; in Shenandoah County, Virginia; approximately 70 feet east of Mill Creek and 300 feet north of Little Stony Creek Road in George Washington National Forest, in woodland:

Oe—0 to 2 inches; moderately decomposed plant material.

A—2 to 4 inches; dark grayish brown (10YR 4/2) channery loam; weak fine granular

- structure; very friable; many fine and medium roots; 15 percent sandstone channers; very strongly acid; abrupt smooth boundary.
- E—4 to 9 inches; yellowish brown (10YR 5/6) channery loam; weak fine subangular blocky structure; friable; many fine and medium roots; few fine irregular pores; 15 percent sandstone channers; very strongly acid; clear smooth boundary.
- Bt1—9 to 14 inches; yellowish brown (10YR 5/6) channery loam; few fine faint strong brown (7.5YR 4/6) mottles; weak fine and medium subangular blocky structure; friable, nonsticky, nonplastic; few fine and common medium roots; common fine irregular pores; few faint clay films on all faces of peds; 20 percent sandstone channers; very strongly acid; clear smooth boundary.
- Bt2—14 to 32 inches; yellowish brown (10YR 5/6) channery loam; weak fine and medium subangular blocky structure; friable, nonsticky, nonplastic; common fine and few medium roots; common fine irregular pores; many distinct clay films on all faces of peds; 25 percent sandstone channers; very strongly acid; clear wavy boundary.
- Btx1—32 to 40 inches; yellowish brown (10YR 5/8) channery loam; strong medium platy structure; brittle, nonsticky, nonplastic; many fine and medium irregular pores; few faint clay films on all faces of peds; few fine prominent light brownish gray (10YR 6/2) and common fine prominent pale brown (10YR 6/3) iron depletions; common fine distinct strong brown (7.5YR 5/6) masses of oxidized iron; 25 percent sandstone channers; strongly acid; gradual wavy boundary.
- Btx2—40 to 67 inches; strong brown (7.5YR 5/6) channery loam; moderate medium platy structure; brittle, nonsticky, nonplastic; many fine and medium irregular pores; few faint clay films along pore surfaces; common medium distinct pale brown (10YR 6/3) iron depletions; common medium faint yellowish brown (10YR 5/6) and common medium distinct red (2.5YR 4/6) masses of oxidized iron; 20 percent sandstone channers; strongly acid.

#### **Range in Characteristics**

*Solum thickness:* 50 inches or more

*Depth to bedrock:* 60 inches or more

*Depth to fragipan:* 30 to 50 inches

*Reaction:* In unlimed areas, extremely acid to strongly acid

#### *A horizon:*

Hue—10YR

Value—2 to 5

Chroma—2 to 4

Fine-earth texture—loam

Rock fragment content—15 to 35 percent

#### *E horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—2 to 6

Fine-earth texture—fine sandy loam or loam

Rock fragment content—15 to 35 percent

#### *Bt horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 8

Fine-earth texture—loam, sandy clay loam, or clay loam

Rock fragment content—15 to 35 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray may occur in the lower part of the horizon

*Btx horizon:*

Hue—5YR to 10YR

Value—4 to 6

Chroma—3 to 8

Fine-earth texture—sandy loam, loam, sandy clay loam, or clay loam

Rock fragment content—15 to 70 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray

## **Lehew Series**

*Physiographic province:* Valley and Ridge

*Landform:* Mountains

*Flooding:* None

*Parent material:* Residuum weathered from dark reddish brown acid sandstone and lesser amounts of shale and siltstone

*Drainage class:* Somewhat excessively drained

*Slowest saturated hydraulic conductivity:* High

*Depth class:* Moderately deep

*Slope range:* 3 to 80 percent

### **Associated Soils**

- Berks soils, which are moderately deep to shale bedrock; in landform positions similar to those of the Lehew soils
- Dekalb soils, which are yellowish brown in color; in similar landform positions

### **Taxonomic Classification**

Loamy-skeletal, siliceous, semiactive, mesic Typic Dystrudepts

### **Typical Pedon**

Lehew very channery fine sandy loam in an area of Dekalb, Lehew and Berks soils, 35 to 70 percent slopes, very stony; in Rockbridge County, Virginia; approximately 15,000 feet south-southwest of the intersection of Highways VA-780 and VA-39 on a bearing of 205 degrees, on Bratton Mountain, in woodland; Millboro, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 56 minutes 05 seconds N. and long. 79 degrees 31 minutes 48 seconds W.

Oe—0 to 2 inches; moderately decomposed plant material.

A—2 to 4 inches; brown (7.5YR 4/2) very channery fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine to coarse roots; 40 percent sandstone channers; very strongly acid; abrupt smooth boundary.

E—4 to 6 inches; reddish brown (5YR 5/3) very channery fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine to coarse roots; 40 percent sandstone channers; very strongly acid; abrupt wavy boundary.

Bw1—6 to 17 inches; dark reddish brown (2.5YR 3/4) very channery fine sandy loam; weak fine and medium subangular blocky structure; friable, nonsticky, nonplastic; many fine to coarse roots; 35 percent sandstone channers and 15 percent sandstone flagstones; very strongly acid; gradual wavy boundary.

Bw2—17 to 24 inches; reddish brown (2.5YR 4/4) very channery fine sandy loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; common

fine to coarse coarse roots; 30 percent sandstone channers and 10 percent sandstone flagstones; very strongly acid; clear wavy boundary.  
C—24 to 37 inches; reddish brown (2.5YR 4/3) extremely flaggy sandy loam; single grain; loose, nonsticky, nonplastic; few fine and medium roots; 40 percent sandstone channers and 25 percent sandstone flagstones;; very strongly acid; clear wavy boundary.  
R—37 inches; hard dark reddish brown sandstone bedrock.

#### Range in Characteristics

*Solum thickness:* 15 to 30 inches

*Depth to bedrock:* 20 to 40 inches

*Reaction:* In unlimed areas, extremely acid to strongly acid

#### *A horizon:*

Hue—7.5YR or 10YR

Value—2 to 4

Chroma—1 or 2

Fine-earth texture—fine sandy loam

Rock fragment content—35 to 60 percent

#### *E horizon:*

Hue—5YR or 7.5YR

Value—5 or 6

Chroma—2 to 4

Fine-earth texture—fine sandy loam, sandy loam, or loam

Rock fragment content—20 to 60 percent

#### *Bw horizon:*

Hue—2.5YR or 5YR

Value—3 to 5

Chroma—3 to 6

Fine-earth texture—fine sandy loam, sandy loam, or loam

Rock fragment content—20 to 60 percent; weighted average of 35 percent or more in the particle-size control section

#### *C horizon:*

Hue—2.5YR or 5YR

Value—3 to 5

Chroma—2 to 6

Fine-earth texture—fine sandy loam, sandy loam, loam, or loamy sand

Rock fragment content—35 to 85 percent

## Lily Series

*Physiographic province:* Valley and Ridge

*Landform:* Hills and mountains

*Flooding:* None

*Parent material:* Residuum weathered from sandstone

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Moderately deep

*Slope range:* 3 to 55 percent

#### Associated Soils

- Dekalb soils, which have a loamy-skeletal particle-size class; in landform positions similar to those of the Lily soils

## Soil Survey of Rockbridge County, Virginia

- Laidig soils, which are very deep to bedrock; in colluvial positions
- Lodi soils, which are very deep to bedrock; in similar landform positions
- McClung soils, which are very deep to bedrock; in similar landform positions
- Oriskany soils, which have a loamy-skeletal particle-size class; in colluvial positions

### Taxonomic Classification

Fine-loamy, siliceous, semiactive, mesic Typic Hapludults

### Typical Pedon

Lily sandy loam in an area of Dekalb-Lily-McClung complex, 15 to 35 percent slopes; in Alleghany County, Virginia; approximately 300 feet north-northwest of the intersection of Highway VA-658 and Forest Service Road 175 on a bearing of 352 degrees, in the area of Peters Mountain, in woodland; Callaghan, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 46 minutes 39 seconds N. and long. 80 degrees 05 minutes 05 seconds W.

Oe—0 to 1 inch; moderately decomposed plant material.

A—1 to 3 inches; black (10YR 2/1) sandy loam; weak fine granular structure; very friable; many fine and medium roots; 14 percent sandstone channers; extremely acid; abrupt smooth boundary.

BE—3 to 17 inches; yellowish brown (10YR 5/4) loam; weak fine subangular blocky structure; very friable; common fine and medium roots; 8 percent sandstone gravel; very strongly acid; clear smooth boundary.

Bt1—17 to 27 inches; yellowish brown (10YR 5/6) clay loam; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; few very fine and fine roots; common faint clay films on all faces of peds; 5 percent sandstone gravel; very strongly acid; gradual smooth boundary.

Bt2—27 to 32 inches; strong brown (7.5YR 5/6) gravelly clay loam; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; few very fine and fine roots; common faint clay films on all faces of peds; 30 percent sandstone gravel; very strongly acid; abrupt irregular boundary.

R—32 inches; sandstone bedrock.

### Range in Characteristics

*Solum thickness:* 20 to 40 inches

*Depth to bedrock:* 20 to 40 inches

*Reaction:* In unlimed areas, extremely acid to strongly acid

#### *A horizon:*

Hue—7.5YR or 10YR

Value—2 to 5

Chroma—1 to 3

Fine-earth texture—sandy loam

Rock fragment content—5 to 15 percent

#### *BE or BA horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—2 to 8

Fine-earth texture—sandy loam, fine sandy loam, or loam

Rock fragment content—5 to 30 percent

#### *Bt horizon:*

Hue—5YR to 10YR

Value—4 to 6

Chroma—4 to 8



Fine-earth texture—loam, sandy clay loam, or clay loam  
Rock fragment content—5 to 35 percent

## Litz Series

*Physiographic province:* Valley and Ridge

*Landform:* Hills and mountains

*Flooding:* None

*Parent material:* Residuum weathered from shale and siltstone and, in some areas, calcareous shale and siltstone

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Moderately deep

*Slope range:* 3 to 70 percent

### Associated Soils

- Chiswell soils, which are shallow to bedrock; in landform positions similar to those of the Litz soils
- Groseclose soils, which are very deep to bedrock; in similar landform positions
- Needmore soils, which have a fine particle-size class; in similar landform positions

### Taxonomic Classification

Loamy-skeletal, mixed, active, mesic Ruptic-Ultic Dystrudepts

### Typical Pedon

Litz channery silt loam in an area of Litz-Chiswell-Groseclose complex, 35 to 55 percent slopes; in Rockbridge County, Virginia; approximately 10,800 feet south-southwest of Goose Neck Dam on a bearing of 195 degrees, in the area of Brady Hill, in woodland; Glasgow, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 40 minutes 15 seconds N. and long. 79 degrees 25 minutes 07 seconds W.

Oe—0 to 1 inch; moderately decomposed plant material.

A—1 to 3 inches; brown (10YR 4/3) channery silt loam; weak very fine to medium granular structure; very friable, nonsticky, slightly plastic; many very fine to medium roots; 15 percent channers; very strongly acid; clear wavy boundary.

BE—3 to 6 inches; dark yellowish brown (10YR 4/4) channery silt loam; weak fine and medium subangular blocky structure; friable, nonsticky, slightly plastic; many many fine to medium roots; 18 percent channers; very strongly acid; clear wavy boundary.

Bw/Bt—6 to 27 inches; 70 percent brown (7.5YR 5/4) very channery silt loam (Bw part); 30 percent strong brown (7.5YR 5/6) silty clay loam (Bt part); moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine to medium roots; common distinct clay films on faces of peds and on rock fragments (Bt part); 55 percent channers; very strongly acid; clear irregular boundary.

C—27 to 32 inches; brown (7.5YR 5/4) extremely channery silt loam; massive; friable, slightly sticky, slightly plastic; few very fine and fine roots; 80 percent channers; very strongly acid; diffuse irregular boundary.

Cr—32 to 38 inches; soft weathered dark reddish brown (2.5YR 3/4) shale bedrock.

R—38 inches; hard fractured reddish brown shale bedrock.

### Range in Characteristics

*Solum thickness:* 10 to 30 inches

*Depth to bedrock:* 20 to 40 inches

*Reaction:* In unlimed areas, very strongly acid to moderately acid

*A horizon:*

Hue—7.5YR or 10YR  
Value—3 or 4  
Chroma—2 to 4  
Fine-earth texture—silt loam  
Rock fragment content—15 to 35 percent

*BE horizon:*

Hue—5YR or 10YR  
Value—4 to 6  
Chroma—3 to 6  
Fine-earth texture—silt loam or loam  
Rock fragment content—15 to 35 percent

*Bw/Bt horizon:*

Hue—5YR to 10YR  
Value—4 to 6  
Chroma—3 to 8  
Fine-earth texture—silt loam or loam in the Bw part and silty clay loam or clay loam in the Bt part  
Rock fragment content—35 to 80 percent

*C horizon:*

Hue—5YR to 2.5Y  
Value—4 to 6  
Chroma—3 to 6  
Fine-earth texture—silt loam, loam, silty clay loam, or clay loam  
Rock fragment content—35 to 90 percent

## **Lobdell Series**

*Physiographic province:* Valley and Ridge

*Landform:* Flood plains along creeks mainly underlain by limestone and dolomitic limestone

*Flooding:* Occasional

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

*Drainage class:* Moderately well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 0 to 3 percent

### **Associated Soils**

- Derroc soils, which are well drained; on flood plains throughout the county
- Holly soils, which are poorly drained; on flood plains throughout the county
- Orrville soils, which are somewhat poorly drained; on flood plains throughout the county
- Sensabaugh soils, which are well drained; on flood plains similar to those of the Lobdell soils

### **Taxonomic Classification**

Fine-loamy, mixed, active, mesic Fluvaquentic Eutrudepts

### **Typical Pedon**

Lobdell loam, 0 to 3 percent slopes, occasionally flooded; in Pendleton County, West Virginia; approximately 1.1 miles northeast of Brandywine, 500 feet east of the South

## Soil Survey of Rockbridge County, Virginia

Fork of the South Branch of the Potomac River, 650 feet northeast of its confluence with Heavener Run, in pasture; Fort Seybert, West Virginia USGS 7.5 Minute Quadrangle; approximate lat. 38 degrees 38 minutes 12 seconds N. and long. 79 degrees 13 minutes 38 seconds W.

- Ap—0 to 10 inches; dark brown (10YR 3/3) loam, light brownish gray (10YR 6/2) dry; weak medium granular structure; friable; many fine roots; slightly acid; clear wavy boundary.
- A—10 to 15 inches; dark brown (10YR 3/3) loam, light brownish gray (10YR 6/2) dry; weak medium granular structure; friable; common fine roots; moderately acid; clear wavy boundary.
- Bw1—15 to 23 inches; brown (10YR 4/3) loam; weak fine and medium subangular blocky structure; friable; few fine roots; few faint grayish brown (10YR 5/2) iron depletions; moderately acid; clear wavy boundary.
- Bw2—23 to 33 inches; brown (10YR 4/3) loam; weak medium subangular blocky structure; friable; few fine roots; common faint grayish brown (10YR 5/2) iron depletions; few black (10YR 2/1) manganese coatings; moderately acid; clear wavy boundary.
- C—33 to 65 inches; dark yellowish brown (10YR 4/4) sandy loam; massive; very friable; few fine roots; many distinct grayish brown (10YR 5/2) iron depletions; few black (10YR 2/1) manganese coatings; 10 percent rounded gravel; moderately acid.

### Range in Characteristics

*Solum thickness:* 24 to 50 inches

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, strongly acid to neutral in the A and B horizons and moderately acid to neutral in the C horizon

#### *A and Ap horizons:*

Hue—10YR

Value—2 to 4

Chroma—1 to 3

Fine-earth texture—loam

Rock fragment content—0 to 5 percent

#### *Bw horizon:*

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—3 or 4

Fine-earth texture—silt loam or loam

Rock fragment content—0 to 15 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray (chroma of 2 or less) within a depth of 24 inches from the surface

#### *C horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—3 or 4

Fine-earth texture—sandy loam, loam, or silt loam

Rock fragment content—0 to 15 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray

*Cg horizon (if it occurs):*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 or 2

Fine-earth texture—sandy loam, loam, or silt loam

Rock fragment content—0 to 15 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray within the gleyed matrix

## **Lodi Series**

*Physiographic province:* Valley and Ridge

*Landform:* Hills and mountains

*Flooding:* None

*Parent material:* Residuum weathered from limestone interbedded with sandstone

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 8 to 35 percent

### **Associated Soils**

- Caneyville soils, which are moderately deep to bedrock; in landform positions similar to those of the Lodi soils
- Lily soils, which are moderately deep to bedrock; in landform positions similar to those of the Lodi soils
- McClung soils, which have a fine-loamy particle-size class; in landform positions similar to those of the Lodi soils

### **Taxonomic Classification**

Fine, mixed, subactive, mesic Typic Hapludults

### **Typical Pedon**

Lodi gravelly fine sandy loam in an area of Lodi-McClung-Lily complex, 8 to 15 percent slopes; in Rockbridge County, Virginia; approximately 3,400 feet southwest of the intersection of the Augusta-Rockbridge County line and the Little Calfpasture River, 1.1 miles south-southeast of the intersection of the Augusta-Rockbridge County line and Highway VA-42, in a road cut bordering woodland and a grassed area; Craigsville, Virginia USGS 7.5 Minute Quadrangle; lat. 38 degrees 02 minutes 07 seconds N. and long. 79 degrees 24 minutes 59 seconds W.

Oe—0 to 1 inch; moderately decomposed plant material.

A—1 to 7 inches; dark grayish brown (10YR 4/2) gravelly fine sandy loam; weak medium and coarse granular structure; very friable, nonsticky, nonplastic; common very fine and fine and few medium roots; 15 percent subangular sandstone gravel; very strongly acid; abrupt smooth boundary.

BE—7 to 19 inches; yellowish brown (10YR 5/4) fine sandy loam; weak fine and medium subangular blocky structure; very friable, nonsticky, nonplastic; few very fine and fine roots; 10 percent subangular sandstone gravel; very strongly acid; abrupt wavy boundary.

Bt1—19 to 31 inches; yellowish red (5YR 5/6) clay; moderate fine and medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine and medium roots; many prominent clay films on all faces of peds; strongly acid; clear wavy boundary.

Bt2—31 to 49 inches; variegated strong brown (7.5YR 5/6) and yellowish red (5YR 5/6) gravelly clay loam with pockets of clay; many yellowish brown (10YR 5/6) mottles; weak fine and medium subangular blocky structure; friable, moderately sticky, moderately plastic; few very fine roots; common distinct clay films on all faces of peds; 15 percent subangular sandstone gravel and 5 percent subangular sandstone channers; strongly acid; clear wavy boundary.

C—49 to 67 inches; variegated strong brown (7.5YR 5/6) and yellowish red (5YR 4/6) gravelly loam; many light yellowish brown (10YR 6/4) mottles; massive; very friable, slightly sticky, slightly plastic; 12 percent subangular sandstone gravel and 5 percent subangular sandstone channers; strongly acid.

#### **Range in Characteristics**

*Solum thickness:* 40 inches or more

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, very strongly acid or strongly acid

#### *A or Ap horizon:*

Hue—10YR

Value—3 to 5

Chroma—2 to 4

Fine-earth texture—fine sandy loam

Rock fragment content—15 to 35 percent

#### *BE horizon:*

Hue—7.5YR or 10YR

Value—4 to 6 Chroma—4 to 8

Fine-earth texture—fine sandy loam or loam

Rock fragment content—0 to 25 percent

#### *Bt horizon:*

Hue—2.5YR to 7.5YR

Value—4 to 6

Chroma—6 to 8

Fine-earth texture—clay loam, sandy clay loam, or clay; weighted average of 35 percent or more clay in the particle-size control section

Rock fragment content—0 to 25 percent; in lower B horizons rock fragments occur in seams and are weathered fine-grained sandstone

#### *C horizon:*

Hue—5YR to 10YR

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—loam, sandy loam, fine sandy loam, or clay loam

Rock fragment content—0 to 25 percent; rock fragments occur in seams and are weathered fine-grained sandstone

## **Lostcove Series**

*Physiographic province:* Blue Ridge

*Landform:* Side slopes, base of slopes of mountains and in drainageways

*Flooding:* None

*Parent material:* Colluvium derived from metasedimentary rocks

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 3 to 55 percent

### Associated Soils

- Marbleyard soils, which are moderately deep to bedrock; on adjacent mountains
- McCamy soils, which are moderately deep to bedrock; on adjacent mountains
- Sherando soils, which have more sand in the subsoil than the Lostcove soils; in colluvial positions
- Stumptown soils, which are moderately deep to bedrock; on adjacent mountains
- Sylco soils, which are moderately deep to bedrock; on adjacent mountains

### Taxonomic Classification

Loamy-skeletal, siliceous, active, mesic Typic Hapludults

### Typical Pedon

Lostcove very cobbly sandy loam, 15 to 35 percent slopes, very stony; in Rockbridge County, Virginia; approximately 5,750 feet north-northeast of the intersection of Forest Service Roads 76 and 1163 on a bearing of 17 degrees, in the area of Chestnut Sag, in woodland; Cornwall, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 46 minutes 46 seconds N. and long. 79 degrees 17 minutes 06 seconds W.

Oi—0 to 1 inch; slightly decomposed plant material.

Oe—1 to 2 inches; moderately decomposed plant material.

A—2 to 3 inches; black (10YR 2/1) very cobbly sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine to coarse roots; 20 percent gravel, 30 percent cobbles and 5 percent stones; very strongly acid; abrupt smooth boundary.

E—3 to 6 inches; grayish brown (10YR 5/2) very cobbly sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine to coarse roots; 20 percent gravel, 30 percent cobbles and 5 percent stones; very strongly acid; abrupt smooth boundary.

BE—6 to 13 inches; light olive brown (2.5Y 5/6) gravelly loam; weak fine and medium subangular blocky structure; very friable, slightly sticky, slightly plastic; many fine to coarse roots; 25 percent gravel; very strongly acid; clear wavy boundary.

Bt1—13 to 21 inches; yellowish brown (10YR 5/4) very gravelly loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine and medium roots; common distinct clay films on all faces of peds; 35 percent gravel; very strongly acid; clear wavy boundary.

Bt2—21 to 36 inches; yellowish brown (10YR 5/6) extremely cobbly clay loam; moderate medium and coarse subangular blocky structure; friable, slightly sticky, slightly plastic; common fine and medium roots; common distinct clay films on all faces of peds; 10 percent gravel, 35 percent cobbles and 20 percent stones; very strongly acid; abrupt wavy boundary.

Bt3—36 to 44 inches; strong brown (7.5YR 5/6) very stony sandy clay loam; moderate medium and coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; common distinct clay films on all faces of peds; 10 percent gravel, 20 percent cobbles and 20 percent stones; very strongly acid; clear wavy boundary.

Bt4—44 to 65 inches; strong brown (7.5YR 5/6) extremely stony clay loam; moderate medium and coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; common distinct clay films on all faces of peds; 15 percent gravel, 25 percent cobbles and 30 percent stones; very strongly acid.

### Range in Characteristics

*Solum thickness:* 30 inches or more

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, extremely acid to strongly acid



*A horizon:*

Hue—7.5YR or 10YR  
Value—2 to 4  
Chroma—1 to 4  
Fine-earth texture—sandy loam  
Rock fragment content—35 to 55 percent

*E horizon:*

Hue—10YR or 2.5Y  
Value—5 to 8  
Chroma—2 to 4  
Fine-earth texture—sandy loam, fine sandy loam, or loam  
Rock fragment content—15 to 55 percent

*BE horizon:*

Hue—10YR or 2.5Y  
Value—4 to 6  
Chroma—3 to 6  
Fine-earth texture—sandy loam, fine sandy loam, or loam  
Rock fragment content—15 to 55 percent

*Bt horizon:*

Hue—7.5YR to 10YR  
Value—4 to 6  
Chroma—4 to 8  
Fine-earth texture—sandy clay loam, clay loam, or loam  
Rock fragment content—35 to 80 percent

## **Marbleyard Series**

*Physiographic province:* Blue Ridge

*Landform:* Mountains

*Flooding:* None

*Parent material:* Residuum weathered from metaquartzite and metasandstone

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* High

*Depth class:* Moderately deep

*Slope range:* 15 to 80 percent

### **Associated Soils**

- Lostcove soils, which are very deep to bedrock; in colluvial positions
- McCamy soils, which have a fine-loamy particle-size class; in landform positions similar to those of the Marbleyard soils
- Sherando soils, which are very deep to bedrock; in colluvial positions
- Stumptown soils, which have less sand in the subsoil than the Marbleyard soil and have a thin argillic horizon; in similar landform positions
- Sylco soils, which have more silt in the subsoil; in similar landform positions

### **Taxonomic Classification**

Loamy-skeletal, siliceous, semiactive, mesic Typic Dystrudepts

### **Typical Pedon**

Marbleyard very cobbly sandy loam in an area of Marbleyard-Sherando-Rock outcrop complex, 35 to 55 percent slopes, extremely stony (fig. 28); in Rockbridge County, Virginia; approximately 3,000 feet north-northeast of the intersection of Highway



**Figure 28.—A soil profile of Marbleyard very cobbly sandy loam. Rock fragment content averages 35 percent or more in the particle-size control section from 10 inches to 36 inches. Depth is marked in inches.**

VA-603 and the head of the Whetstone Ridge Trail on a bearing of 07 degrees along Irish Creek, on South Mountain, in woodland; Cornwall, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 48 minutes 15 seconds N. and long. 79 degrees 16 minutes 58 seconds W.

Oi—0 to 1 inch; slightly decomposed plant material.

A—1 to 4 inches; dark brown (10YR 3/3) very cobbly sandy loam; weak fine granular

- structure; very friable, nonsticky, nonplastic; many very fine to very coarse roots; 15 percent metaquartzite gravel, 20 percent metaquartzite cobbles and 10 percent metaquartzite stones; very strongly acid; clear wavy boundary.
- BE—4 to 9 inches; yellowish brown (10YR 5/4) very cobbly sandy loam; weak fine and medium granular structure; very friable, nonsticky, nonplastic; many very fine to very coarse roots; 20 percent metaquartzite gravel and 15 percent metaquartzite cobbles; very strongly acid; gradual wavy boundary.
- Bw—9 to 23 inches; yellowish brown (10YR 5/6) extremely cobbly sandy loam; weak fine and medium subangular blocky structure; very friable, nonsticky, nonplastic; common very fine to coarse roots; 25 percent metaquartzite gravel, 30 percent metaquartzite cobbles and 10 percent metaquartzite stones; extremely acid; gradual wavy boundary.
- C—23 to 36 inches; brownish yellow (10YR 6/6) extremely gravelly sandy loam; single grain; loose; few very fine roots; 45 percent metaquartzite gravel and 20 percent metaquartzite cobbles; extremely acid; abrupt wavy boundary.
- R—36 inches; very pale brown (10YR 7/4) and light gray (10YR 7/2) fractured metaquartzite bedrock.

#### **Range in Characteristics**

*Solum thickness:* 20 to 40 inches

*Depth to bedrock:* 20 to 40 inches

*Reaction:* In unlimed areas, extremely acid to strongly acid

##### *A horizon:*

Hue—10YR

Value—2 to 4

Chroma—1 to 4

Fine-earth texture—sandy loam

Rock fragment content—35 to 60 percent

##### *E horizon (if it occurs):*

Hue—7.5YR to 2.5Y

Value—5 or 6

Chroma—2 to 4

Fine-earth texture—fine sandy loam, sandy loam, or loam

Rock fragment content—35 to 60 percent

##### *BE horizon:*

Hue—7.5YR to 2.5Y

Value—4 or 5

Chroma—3 to 6

Fine-earth texture—fine sandy loam, sandy loam, or loam

Rock fragment content—35 to 60 percent

##### *Bw horizon:*

Hue—7.5YR to 2.5Y

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—fine sandy loam, sandy loam, or loam

Rock fragment content—35 to 75 percent

##### *C horizon:*

Hue—7.5YR to 2.5Y

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—sandy loam, loam, or loamy sand

Rock fragment content—50 to 90 percent



## Maurertown Series

*Physiographic province:* Valley and Ridge

*Landform:* Depressions and backswamps on low level stream terraces

*Flooding:* Rare

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

*Drainage class:* Poorly drained

*Slowest saturated hydraulic conductivity:* Low

*Depth class:* Very deep

*Slope range:* 0 to 3 percent

### Associated Soils

- Alonzville soils, which are well drained; in flood plain positions that are similar to those of the Maurertown soils but better drained
- Botetourt soils, which are moderately well drained; in landform positions that are similar but better drained
- Coursey soils, which are moderately well drained; in landform positions that are similar but better drained
- Ingledove soils, which are well drained; in landform positions that are similar but better drained
- Toms soils, which are somewhat poorly drained; in similar landform positions

### Taxonomic Classification

Fine, mixed, semiactive, mesic Typic Endoaqualfs

### Typical Pedon

Maurertown silty clay loam, 0 to 2 percent slopes; in Shenandoah County, Virginia; approximately 0.5 mile south of Zion Church at the intersection of Highways VA-645 and VA-654, and 2,000 feet east of Highway VA-645:

- Ap—0 to 6 inches; dark grayish brown (10YR 4/2) silty clay loam; weak very fine and fine subangular blocky structure; friable, slightly sticky, slightly plastic; many fine roots; common fine and few medium irregular pores; slightly acid; abrupt smooth boundary.
- Btg1—6 to 13 inches; olive gray (5Y 4/2) silty clay loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; many fine roots; many fine and medium and common coarse irregular pores; many distinct clay films on all faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron; slightly acid; gradual smooth boundary.
- Btg2—13 to 27 inches; dark gray (5Y 4/1) silty clay; weak medium prismatic structure parting to moderate medium and coarse subangular blocky; firm, moderately sticky, moderately plastic; few fine roots; common fine and few medium irregular pores; many distinct clay films on all faces of peds; many fine prominent strong brown (7.5YR 5/8) masses of oxidized iron, and common fine iron-manganese concretions; moderately acid; gradual smooth boundary.
- Btg3—27 to 43 inches; dark gray (5Y 4/1) silty clay loam; weak medium prismatic structure parting to moderate medium and coarse subangular blocky; firm, moderately sticky, moderately plastic; few fine roots; common fine and few medium irregular pores; many distinct clay films on all faces of peds; many medium and coarse prominent strong brown (7.5YR 5/6) and olive brown (2.5Y 4/4) masses of oxidized iron, and common fine iron-manganese concretions; moderately acid; gradual smooth boundary.
- Btg4—43 to 65 inches; gray (5Y 5/1) silty clay; weak fine and medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots; few fine

irregular pores; many distinct clay films on all faces of peds; many medium and coarse prominent olive brown (2.5Y 4/4) and strong brown (7.5YR 5/6) masses of oxidized iron, and common fine iron-manganese concretions; moderately acid.

#### **Range in Characteristics**

*Solum thickness:* 40 inches or more

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, moderately acid to neutral

*Ap or A horizon:*

Hue—10YR or 2.5Y

Value—3 to 5

Chroma—1 or 2

Fine-earth texture—silty clay loam

Rock fragment content—0 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and, in some pedons, redoximorphic depletions in shades of brown or gray within the gleyed matrix

*B<sub>Ag</sub> horizon (if it occurs):*

Hue—10YR to 5Y

Value—4 to 6

Chroma—1 or 2

Fine-earth texture—loam, silt loam, silty clay loam, or clay loam

Rock fragment content—0 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and, in some pedons, redoximorphic depletions in shades of brown or gray within the gleyed matrix

*B<sub>tg</sub> horizon:*

Hue—10YR to 5Y

Value—4 to 6

Chroma—1 or 2

Fine-earth texture—silty clay loam, silty clay, or clay

Rock fragment content—0 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and, in some pedons, redoximorphic depletions in shades of brown or gray within the gleyed matrix

*C<sub>g</sub> horizon (if it occurs):*

Hue—10YR to 5Y

Value—4 to 6

Chroma—1 or 2

Fine-earth texture—silty clay loam, silty clay, or clay

Rock fragment content—0 to 15 percent in the upper part; 0 to 35 percent in the lower part

Other features—redoximorphic concentrations in shades of red, brown, or yellow and, in some pedons, redoximorphic depletions in shades of brown or gray within the gleyed matrix

### **McCamy Series**

*Physiographic province:* Blue Ridge

*Landform:* Mountains

*Flooding:* None

## Soil Survey of Rockbridge County, Virginia

*Parent material:* Residuum weathered from feldspathic metasandstone, metasiltstone, and metashale

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Moderately deep

*Slope range:* 3 to 15 percent

### Associated Soils

- Lostcove soils, which are very deep to bedrock; in colluvial positions
- Marbleyard soils, which have a loamy-skeletal particle-size class; in landform positions similar to those of the McCamy soils
- Stumptown soils, which have a loamy-skeletal particle-size class; in similar landform positions
- Sylco soils, which have a loamy-skeletal particle-size class; in similar landform positions

### Taxonomic Classification

Fine-loamy, siliceous, semiactive, mesic Typic Hapludults

### Typical Pedon

McCamy loam, 3 to 15 percent slopes, very stony; in Rockbridge County, Virginia; approximately 3,200 feet south-southwest of the intersection of Forest Service Roads 164 and 1154 on a bearing of 212 degrees, on the summit of Punchbowl Mountain, in woodland; Buena Vista, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 40 minutes 24 seconds N. and long. 79 degrees 20 minutes 35 seconds W.

Oe—0 to 1 inch; moderately decomposed plant material.

A—1 to 4 inches; very dark grayish brown (10YR 3/2) loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine to coarse roots; 10 percent gravel; very strongly acid; abrupt wavy boundary.

BE—4 to 7 inches; dark yellowish brown (10YR 4/4) loam; weak fine subangular blocky structure parting to weak fine granular; friable, nonsticky, nonplastic; common fine to coarse roots; 10 percent gravel; very strongly acid; clear wavy boundary.

Bt1—7 to 18 inches; brown (7.5YR 4/4) gravelly sandy clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine to coarse roots; common distinct clay films on all faces of peds; 15 percent gravel; very strongly acid; clear wavy boundary.

Bt2—18 to 27 inches; strong brown (7.5YR 5/6) gravelly sandy clay loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine to coarse roots; common distinct clay films on all faces of peds and on rock fragments; 25 percent gravel; very strongly acid; clear wavy boundary.

Bt3—27 to 31 inches; strong brown (7.5YR 5/8) very cobbly sandy clay loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine to coarse roots; common distinct clay films on all faces of peds and on rock fragments; 20 percent gravel and 25 percent cobbles; very strongly acid; abrupt irregular boundary.

R—31 inches; fractured feldspathic metasandstone bedrock.

### Range in Characteristics

*Solum thickness:* 20 to 40 inches

*Depth to bedrock:* 20 to 40 inches

*Reaction:* In unlimed areas, very strongly acid or strongly acid



*A horizon:*

Hue—10YR or 2.5Y  
Value—3 to 6  
Chroma—1 to 4  
Fine-earth texture—loam  
Rock fragment content—0 to 15 percent

*BE horizon:*

Hue—10YR or 2.5Y  
Value—4 to 6  
Chroma—3 to 6  
Fine-earth texture—sandy loam, fine sandy loam, or loam  
Rock fragment content—0 to 35 percent

*Bt horizon:*

Hue—5YR to 10YR  
Value—4 to 6  
Chroma—4 to 8  
Fine-earth texture—loam, clay loam, or sandy clay loam  
Rock fragment content—0 to 50 percent; weighted average of less than 35 percent in the particle-size control section

## McClung Series

*Physiographic province:* Valley and Ridge

*Landform:* Hills and mountains

*Flooding:* None

*Parent material:* Residuum weathered from sandstone interbedded with limestone and dolomitic limestone

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 8 to 55 percent

### Associated Soils

- Caneyville soils, which are moderately deep to bedrock; in landform positions similar to those of the McClung soils
- Dekalb soils, which are moderately deep to bedrock; in similar landform positions
- Lily soils, which are moderately deep to bedrock; in similar landform positions
- Lodi soils, which have a fine particle-size class; in similar landform positions
- Murrill soils, which formed partly in colluvium derived mainly from sandstone and shale and partly in the underlying residuum weathered from limestone; in colluvial positions
- Oriskany soils, which have a loamy-skeletal particle-size class; in colluvial positions

### Taxonomic Classification

Fine-loamy, siliceous, semiactive, mesic Typic Paleudults

### Typical Pedon

McClung sandy loam in an area of McClung-Watahala-Dekalb complex, 8 to 15 percent slopes; in Bath County, Virginia; approximately 1.1 miles northeast of the intersection of Highways VA-609 and VA-624, and 180 yards southeast of Highway VA-624, in woodland; Bath Alum, Virginia USGS 7.5 Minute Quadrangle; lat. 38 degrees 05 minutes 15 seconds N. and long. 79 degrees 40 minutes 10 seconds W.

Oe—0 to 2 inches; moderately decomposed plant material.

- E—2 to 3 inches; light gray (10YR 7/2) sandy loam; weak coarse granular structure; very friable, nonsticky, nonplastic; many fine to coarse roots; few fine tubular pores; extremely acid; abrupt smooth boundary.
- BE—3 to 11 inches; yellowish brown (10YR 5/4) sandy loam; weak medium subangular blocky structure; very friable, nonsticky, nonplastic; few very fine and fine roots; few fine dendritic tubular pores; very strongly acid; clear smooth boundary.
- Bt1—11 to 19 inches; yellowish brown (10YR 5/8) sandy loam; weak coarse subangular blocky structure; friable, slightly sticky, nonplastic; few very fine and fine roots; common fine dendritic tubular pores; very few faint clay films on surfaces along pores and few faint clay films on all faces of peds; very strongly acid; gradual wavy boundary.
- Bt2—19 to 28 inches; strong brown (7.5YR 5/8) sandy clay loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine and fine roots; common fine dendritic tubular pores; very few faint clay films on surfaces along pores and few faint clay films on all faces of peds; very strongly acid; clear wavy boundary.
- Bt3—28 to 38 inches; strong brown (7.5YR 5/8) sandy clay loam; common coarse red (2.5YR 4/6) mottles; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine and fine roots; many fine dendritic tubular pores; very few prominent clay films on surfaces along pores and common prominent clay films on all faces of peds; very strongly acid; abrupt wavy boundary.
- Bt4—38 to 51 inches; yellowish red (5YR 5/6) sandy clay loam; common medium red (2.5YR 4/6) and common medium brownish yellow (10YR 6/8) mottles; strong coarse subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine roots; common very fine dendritic tubular pores; very few prominent clay films on surfaces along pores and common prominent clay films on all faces of peds; very strongly acid; gradual wavy boundary.
- Bt5—51 to 65 inches; reddish yellow (7.5YR 6/8) sandy clay loam; common fine yellow (10YR 7/6) mottles; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine roots; few distinct clay films on all faces of peds; few fine prominent clay bodies; very strongly acid.

#### **Range in Characteristics**

*Solum thickness:* 60 inches or more

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, extremely acid to strongly acid

*A or Ap horizon (if it occurs):*

Hue—10YR

Value—3 or 4

Chroma—2 to 4

Fine-earth texture—sandy loam, fine sandy loam, or loam

Rock fragment content—0 to 15 percent

*E horizon:*

Hue—10YR

Value—4 to 7

Chroma—2 or 3

Fine-earth texture—sandy loam

Rock fragment content—0 to 15 percent

*BE horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—4 to 6

Fine-earth texture—sandy loam, fine sandy loam, or loam

Rock fragment content—0 to 35 percent

*Bt horizon:*

Hue—2.5YR to 10YR

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—loam or sandy loam in the upper part and sandy clay loam, clay loam, or sandy clay in the lower part

Rock fragment content—0 to 35 percent

## Murrill Series

*Physiographic province:* Valley and Ridge

*Landform:* Sideslopes, base of slopes on hills and mountains and in drainageways

*Flooding:* None

*Parent material:* Partly in colluvium derived mainly from sandstone, siltstone, and shale and partly in the underlying residuum weathered from limestone, dolomitic limestone, and calcareous shale

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 3 to 55 percent

### Associated Soils

- Dekalb soils, which are moderately deep to bedrock; on adjacent mountains
- Lehigh soils, which are moderately deep to bedrock; on adjacent mountains
- Lodi soils, which have a fine particle-size class; on adjacent hills and mountains
- McClung soils, which formed in residuum weathered from sandstone interbedded with limestone; on adjacent hills and mountains
- Needmore soils, which are moderately deep to bedrock; on adjacent mountains
- Oriskany soils, which have a loamy-skeletal particle-size class; in landform positions similar to those of the Murrill soils

### Taxonomic Classification

Fine-loamy, mixed, semiactive, mesic Typic Hapludults

### Typical Pedon

Murrill cobbly loam, 15 to 35 percent slopes, very stony; in Alleghany County, Virginia; approximately 4,100 feet east-northeast of the intersection of Highways VA-600 and VA-604 on a bearing of 58 degrees, in the area of Peters Mountain, in a road cut adjacent to an area of pasture; Alleghany, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 40 minutes 23 seconds N. and long. 80 degrees 12 minutes 04 seconds W.

Ap—0 to 4 inches; brown (10YR 4/3) cobbly loam; weak fine granular structure; very friable; many very fine to coarse roots; 25 percent sandstone cobbles; very strongly acid; gradual smooth boundary.

BE—4 to 10 inches; yellowish brown (10YR 5/6) channery silt loam; weak fine granular structure; very friable; many very fine to coarse roots; 20 percent sandstone channers; very strongly acid; gradual smooth boundary.

Bt1—10 to 15 inches; strong brown (7.5YR 5/6) channery silt loam; weak fine subangular blocky structure; very friable; common fine to coarse roots; few faint

clay films on all faces of peds; 20 percent sandstone channers; very strongly acid; clear smooth boundary.

Bt2—15 to 23 inches; strong brown (7.5YR 5/6) channery silty clay loam; moderate medium subangular blocky structure; friable, moderately sticky, slightly plastic; many fine and medium and common coarse roots; common distinct clay films on all faces of peds and on rock fragments; 30 percent sandstone channers and 2 percent sandstone cobbles; very strongly acid; gradual smooth boundary.

Bt3—23 to 31 inches; yellowish red (5YR 5/8) channery silty clay loam; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; common fine and medium and few coarse roots; common distinct clay films on all faces of peds and on rock fragments; 15 percent sandstone channers; very strongly acid; gradual smooth boundary.

Bt4—31 to 40 inches; yellowish red (5YR 5/8) silty clay loam; few fine distinct brownish yellow (10YR 6/8) mottles; strong medium subangular blocky structure; friable, very sticky, very plastic; common very fine and fine roots; many distinct clay films on all faces of peds; few fine black (10YR 2/1) manganese masses; 10 percent sandstone channers; very strongly acid; gradual smooth boundary.

2Bt5—40 to 65 inches; yellowish red (5YR 5/8) silty clay; strong medium subangular blocky structure; firm, very sticky, very plastic; few very fine and fine roots; many distinct clay films on all faces of peds; many fine black (10YR 2/1) manganese masses; very strongly acid.

#### **Range in Characteristics**

*Solum thickness:* 60 inches or more

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, very strongly acid to moderately acid

*Other properties:* In the Murrill soils of Rockbridge County, there is typically an increase in clay content with increasing depth

*Ap or A horizon:*

Hue—10YR

Value—3 or 4

Chroma—2 to 4

Fine-earth texture—loam

Rock fragment content—15 to 30 percent

*BE or E horizon:*

Hue—10YR

Value—5 or 6

Chroma—3 to 6

Fine-earth texture—loam, silt loam, or sandy loam

Rock fragment content—10 to 30 percent

*Bt horizon:*

Hue—5YR to 10YR

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—loam, silt loam, clay loam, or silty clay loam

Rock fragment content—10 to 30 percent

*2BT horizon:*

Hue—5YR to 10YR

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—clay loam, silty clay loam, or silty clay

Rock fragment content—0 to 25 percent

## Myersville Series

*Physiographic province:* Blue Ridge

*Landform:* Mountains

*Flooding:* None

*Parent material:* Residuum weathered from greenstone

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Deep

*Slope range:* 3 to 15 percent

### Associated Soils

- Edneytown soils, which are very deep to bedrock; in landform positions similar to those of the Myersville soils
- Peaks soils, which are moderately deep to bedrock and have a loamy-skeletal particle-size class; in similar landform positions
- Pignut soils, which are moderately deep to bedrock; in similar landform positions

### Taxonomic Classification

Fine-loamy, mixed, active, mesic Ultic Hapludalfs

### Typical Pedon

Myersville silt loam in an area of Myersville-Catoctin complex, 15 to 35 percent slopes, extremely stony; in Amherst County, Virginia; approximately 0.4 mile northwest (294 degrees) of the intersection of Highways VA-60 and VA-686, and 1.6 miles northwest (302 degrees) of the intersection of Highways VA-60 and VA-635, in pasture; Forks of Buffalo, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 41 minutes 36 seconds N. and long. 79 degrees 14 minutes 53 seconds W.

Ap—0 to 3 inches; dark yellowish brown (10YR 3/4) silt loam; moderate fine granular structure; friable, slightly sticky, slightly plastic; common fine roots; 5 percent greenstone gravel; strongly acid; clear smooth boundary.

Bt1—3 to 20 inches; yellowish red (5YR 5/8) silty clay loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine roots; common distinct clay films on all faces of peds; 5 percent greenstone gravel; strongly acid; clear wavy boundary.

Bt2—20 to 28 inches; strong brown (7.5YR 5/8) silty clay loam; common medium prominent red (2.5YR 4/6), and common medium faint yellowish brown (10YR 5/8) and yellowish red (5YR 5/8) mottles of weathered greenstone; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; common distinct clay films on all faces of peds; 10 percent greenstone gravel; moderately acid; clear wavy boundary.

C—28 to 50 inches; variegated red (2.5YR 4/6), strong brown (7.5YR 5/6), yellowish brown (10YR 5/8), white (10YR 8/1) and black (10YR 2/1) gravelly silt loam; massive; friable, slightly sticky, slightly plastic; few fine roots; few thin clay flows in relic rock joints; 15 percent greenstone gravel; strongly acid; abrupt smooth boundary.

Cr—50 inches; slightly weathered greenstone bedrock that crushes to brownish yellow (10YR 6/6) silt loam; many yellowish red (5YR 5/8) mottles of weathered greenstone; many black (10YR 2/1) manganese masses.

### Range in Characteristics

*Solum thickness:* 20 to 40 inches

*Depth to bedrock:* 40 to 60 inches

*Reaction:* In unlimed areas, strongly acid to moderately acid

*Ap horizon:*

Hue—5YR to 10YR  
Value—2 to 5  
Chroma—2 to 4  
Fine-earth texture—silt loam  
Rock fragment content—0 to 15 percent

*Bt horizon:*

Hue—5YR to 10YR  
Value—4 to 6  
Chroma—4 to 8  
Fine-earth texture—loam, silt loam, clay loam, or silty clay loam  
Rock fragment content—0 to 35 percent

*C horizon:*

Hue—2.5YR to 10YR  
Value—2 to 8  
Chroma—1 to 8; chroma of 2 or less is related to parent material  
Fine-earth texture—loam, silt loam, clay loam, or silty clay loam  
Rock fragment content—5 to 50 percent

## Needmore Series

*Physiographic province:* Valley and Ridge

*Landform:* Hills and mountains

*Flooding:* None

*Parent material:* Residuum weathered from limestone, calcareous shale, and siltstone

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Moderately deep

*Slope range:* 0 to 70 percent

### Associated Soils

- Frederick soils, which are very deep to bedrock; in landform positions similar to those of the Needmore soils
- Groseclose soils, which are very deep to bedrock; in similar landform positions
- Litz soils, which have a loamy-skeletal particle-size class; in similar landform positions
- Opequon soils, which are shallow to bedrock; in similar landform positions

### Taxonomic Classification

Fine, mixed, active, mesic Ultic Hapludalfs

### Typical Pedon

Needmore silt loam in an area of Needmore-Opequon complex, 35 to 70 percent slopes; in Rockbridge County, Virginia; approximately 7,600 feet south-southwest of the intersection of Highways VA-850 and VA-638 on a bearing of 200 degrees, in the area of Kerrs Creek, in woodland; Collierstown, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 50 minutes 20 seconds N. and long. 79 degrees 30 minutes 49 seconds W.

Oe—0 to 2 inches; moderately decomposed plant material.

AE—2 to 5 inches; brown (10YR 5/3) silt loam; moderate medium granular structure; friable, nonsticky, nonplastic; many fine and medium and few coarse roots; 5 percent calcareous shale channers; slightly acid; clear wavy boundary.



Bt1—5 to 14 inches; yellowish brown (10YR 5/6) silty clay; common faint strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; firm, slightly sticky, moderately plastic; many fine and medium roots; common distinct clay films on all faces of peds; 12 percent calcareous shale channers; moderately acid; gradual wavy boundary.

Bt2—14 to 21 inches; strong brown (7.5YR 5/6) clay; common faint yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; firm, slightly sticky, moderately plastic; many fine and medium roots; many distinct clay films on all faces of peds; 8 percent calcareous shale channers; moderately acid; gradual wavy boundary.

BC—21 to 33 inches; 50 percent strong brown (7.5YR 5/6) and 50 percent yellowish brown (10YR 5/6) channery silty clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few fine and medium roots; 20 percent calcareous shale channers; moderately acid; gradual wavy boundary.

Cr—33 to 43 inches; weathered calcareous shale bedrock interbedded with limestone.

#### **Range in Characteristics**

*Solum thickness:* 15 to 40 inches

*Depth to bedrock:* 20 to 40 inches

*Reaction:* In unlimed areas, strongly acid to slightly acid

*AE, Ap, or A horizon:*

Hue—7.5YR or 10YR

Value—2 to 5

Chroma—2 to 4

Fine-earth texture—silt loam

Rock fragment content—0 to 15 percent

*Bt horizon:*

Hue—5YR to 10YR

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—typically clay or silty clay; silty clay loam in the upper part of the horizon in some pedons

Rock fragment content—0 to 35 percent

*BC or C horizon:*

Hue—5YR to 10YR

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—clay, silty clay, or silty clay loam

Rock fragment content—0 to 35 percent

### **Nicelytown Series**

*Physiographic province:* Valley and Ridge

*Landform:* Intermediate to high level stream terraces

*Flooding:* None

*Parent material:* Old alluvium derived from sandstone, siltstone, shale, limestone, and dolomitic limestone

*Drainage class:* Moderately well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 3 to 8 percent

### Associated Soils

- Cottonbend soils, which are well drained; in landform positions similar to those of the Nicelytown soils
- Purdy soils, which are poorly drained; in similar landform positions
- Tygart soils, which are somewhat poorly drained; in similar landform positions
- Shottower soils, which are well drained; in similar landform positions

### Taxonomic Classification

Fine-loamy, siliceous, semiactive, mesic Aquic Paleudults

### Typical Pedon

Nicelytown loam, 3 to 8 percent slopes; in Rockbridge County, Virginia; approximately 1,700 feet east-northeast of the intersection of Highway VA-601 and the entrance to the Goshen Scout Reservation on a bearing of 70 degrees, in the area of Camp Olmsted Dining Hall, in woodland; Goshen, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 58 minutes 08 seconds N. and long. 79 degrees 27 minutes 51 seconds W.

Oe—0 to 1 inch; moderately decomposed plant material.

A—1 to 2 inches; very dark brown (10YR 2/2) loam; weak fine granular structure; friable, nonsticky, nonplastic; many very fine to coarse roots; very strongly acid; abrupt wavy boundary.

E—2 to 4 inches; light olive brown (2.5Y 5/3) loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; many very fine to coarse roots; very strongly acid; abrupt wavy boundary.

BE—4 to 14 inches; light yellowish brown (2.5Y 6/4) loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; many very fine to coarse roots; very strongly acid; clear wavy boundary.

Bt1—14 to 22 inches; light olive brown (2.5Y 5/4) loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine to coarse roots; common faint clay films on all faces of peds; very strongly acid; clear wavy boundary.

Bt2—22 to 33 inches; light olive brown (2.5Y 5/4) clay loam; weak medium and coarse subangular blocky structure; friable, moderately sticky, moderately plastic; common very fine to medium roots; common distinct clay films on all faces of peds; few fine distinct light brownish gray (2.5Y 6/2) iron depletions; few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid; gradual wavy boundary.

Bt3—33 to 49 inches; light olive brown (2.5Y 5/3) clay loam; moderate medium and coarse subangular blocky structure; friable, moderately sticky, moderately plastic; few very fine to medium roots; many prominent clay films on all faces of peds; many medium and coarse distinct gray (2.5Y 6/1) iron depletions; many medium and coarse prominent strong brown (7.5YR 5/8) masses of oxidized iron; very strongly acid; gradual irregular boundary.

Btg—49 to 65 inches; light brownish gray (2.5Y 6/2) clay loam; moderate medium and coarse subangular blocky structure; friable, moderately sticky, moderately plastic; few very fine and fine roots; many prominent clay films on all faces of peds; many medium and coarse faint gray (2.5Y 6/1) iron depletions; many medium and coarse prominent strong brown (7.5YR 5/8) masses of oxidized iron; very strongly acid.

### Range in Characteristics

*Solum thickness:* 60 inches or more

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, very strongly acid or strongly acid

*A horizon:*

Hue—10YR

Value—2 to 4

Chroma—1 to 3

Fine-earth texture—loam

Rock fragment content—0 to 15 percent

*E and BE horizons:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—3 to 6

Fine-earth texture—fine sandy loam, loam, or silt loam

Rock fragment content—0 to 15 percent

*Bt horizon:*

Hue—7.5YR to 2.5Y

Value—5 or 6

Chroma—3 to 8

Fine-earth texture—loam, silt loam, clay loam, or silty clay loam

Rock fragment content—0 to 35 percent in the upper part and 0 to 50 percent in the lower part

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray within 30 inches of the surface

*Btg horizon:*

Hue—10YR or 2.5Y

Value—5 to 7

Chroma—1 or 2

Fine-earth texture—loam, clay loam, or silty clay loam

Rock fragment content—0 to 50 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and, in some pedons, redoximorphic depletions in shades of brown or gray within the gleyed matrix

## Opequon Series

*Physiographic province:* Valley and Ridge

*Landform:* Hills and mountains

*Flooding:* None

*Parent material:* Residuum weathered from limestone and, in some places, calcareous shale and siltstone

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Shallow

*Slope range:* 3 to 100 percent

### Associated Soils

- Carbo soils, which are moderately deep to bedrock; in landform positions similar to those of the Opequon soils
- Groseclose soils, which are very deep to bedrock; in similar landform positions
- Needmore soils, which are moderately deep to bedrock; in similar landform positions
- Slabtown soils, which are very deep to bedrock; in local colluvial positions

### **Taxonomic Classification**

Clayey, mixed, active, mesic Lithic Hapludalfs

### **Typical Pedon**

Opequon silty clay loam in an area of Needmore-Opequon complex, 15 to 35 percent slopes, very rocky; in Rockbridge County, Virginia; approximately 1,676 feet south-southeast of the intersection of Highways VA-672 and VA-676 on a bearing of 170 degrees, in the area of Toad Run, in pasture; Collierstown, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 47 minutes 14 seconds N. and long. 79 degrees 31 minutes 22 seconds W.

Ap—0 to 2 inches; dark brown (10YR 3/3) silty clay loam; moderate fine granular structure; friable, moderately sticky, moderately plastic; many fine roots; 2 percent gravel; neutral; abrupt smooth boundary.

Bt1—2 to 10 inches; variegated 75 percent dark yellowish brown (10YR 4/4) and 25 percent yellowish brown (10YR 5/6) clay; moderate medium subangular blocky structure; friable, very sticky, very plastic; common fine roots; many prominent dark olive brown (2.5Y 3/3) clay films; 4 percent gravel; slightly alkaline; clear wavy boundary.

Bt2—10 to 14 inches; dark yellowish brown (10YR 4/4) clay; moderate medium subangular blocky structure parting to moderate fine angular blocky; firm, very sticky, very plastic; common fine roots; many prominent dark olive brown (2.5Y 3/3) clay films; 4 percent gravel; slightly alkaline; abrupt wavy boundary.

R—14 inches; hard limestone bedrock.

### **Range in Characteristics**

*Solum thickness:* 12 to 20 inches

*Depth to bedrock:* 12 to 20 inches

*Reaction:* In unlimed areas, moderately acid to slightly alkaline

#### *Ap horizon:*

Hue—7.5YR or 10YR

Value—3 or 4

Chroma—2 to 4

Fine-earth texture—silty clay loam

Rock fragment content—0 to 15 percent

#### *Bt horizon:*

Hue—5YR to 10YR

Value—4 or 5

Chroma—4 to 8

Fine-earth texture—silty clay loam, clay, or silty clay

Rock fragment content—0 to 35 percent

## **Oriskany Series**

*Physiographic province:* Valley and Ridge

*Landform:* Sideslopes, base of slopes on hills and mountains, and in drainageways

*Flooding:* None

*Parent material:* Colluvium derived from sandstone, siltstone, and shale

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* High

*Depth class:* Very deep

*Slope range:* 3 to 55 percent

### Associated Soils

- Dekalb soils, which are moderately deep to bedrock; on adjacent mountains
- Escatawba soils, which have a fine-loamy particle-size class; in older colluvial positions
- Laidig soils, which have a fine-loamy particle-size class; in landform positions similar to those of the Oriskany soils
- Lehew soils, which are moderately deep to bedrock; on adjacent mountains
- Lily soils, which are moderately deep to bedrock; on adjacent mountains
- McClung soils, which have a fine-loamy particle-size class; on adjacent hills and mountains
- Murrill soils, which formed partly in colluvium derived mainly from sandstone and shale and partly in the underlying residuum weathered from limestone and calcareous shale; in similar landform positions

### Taxonomic Classification

Loamy-skeletal, siliceous, semiactive, mesic Typic Hapludults

### Typical Pedon

Oriskany cobbly sandy loam, 35 to 55 percent slopes, extremely stony; in Alleghany County, Virginia; approximately 7,900 feet east-northeast of the intersection of Highways VA-18 and VA-657 on a bearing of 73 degrees, in the area of Horse Mountain, in woodland; Covington, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 45 minutes 31 seconds N. and long. 79 degrees 57 minutes 49 seconds W.

Oi—0 to 2 inches; slightly decomposed plant material.

A—2 to 6 inches; very dark grayish brown (10YR 3/2) cobbly sandy loam; weak fine granular structure; very friable; many fine to coarse and few very fine roots; 10 percent sandstone gravel, 15 percent sandstone cobbles and 5 percent sandstone stones; strongly acid; abrupt smooth boundary.

E—6 to 11 inches; brown (10YR 5/3) cobbly sandy loam; weak fine granular structure; very friable; many very fine and fine, common medium and few coarse roots; 10 percent sandstone gravel and 20 percent sandstone cobbles; strongly acid; clear smooth boundary.

Bt1—11 to 29 inches; brown (7.5YR 4/4) very cobbly loam; weak fine subangular blocky structure; friable; common very fine and fine and few medium and coarse roots; few distinct clay bridges between sand grains; 15 percent sandstone gravel, 25 percent sandstone cobbles and 5 percent sandstone stones; strongly acid; gradual wavy boundary.

Bt2—29 to 40 inches; brown (7.5YR 4/4) very cobbly loam; moderate fine subangular blocky structure; friable; common very fine and fine and few medium and coarse roots; few distinct clay bridges between sand grains; 20 percent sandstone gravel, 30 percent sandstone cobbles and 5 percent sandstone stones; very strongly acid; clear wavy boundary.

Bt3—40 to 65 inches; brown (7.5YR 4/4) extremely cobbly loam; moderate fine subangular blocky structure; friable; few fine and medium roots; few distinct clay bridges between sand grains; 20 percent sandstone gravel, 30 percent sandstone cobbles and 10 percent sandstone stones; very strongly acid.

### Range in Characteristics

*Solum thickness:* 40 inches or more

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, very strongly acid to strongly acid, unless limed

*A horizon:*

Hue—7.5YR or 10YR

Value—2 to 4  
Chroma—2 or 3  
Fine-earth texture—sandy loam  
Rock fragment content—15 to 35 percent

*E horizon:*

Hue—7.5YR or 10YR  
Value—4 to 6  
Chroma—3 or 4  
Fine-earth texture—sandy loam, fine sandy loam, or loam  
Rock fragment content—15 to 65 percent

*Bt horizon:*

Hue—5YR to 10YR  
Value—4 to 6  
Chroma—4 to 8  
Fine-earth texture—loam, sandy clay loam, or clay loam  
Rock fragment content—35 to 75 percent

*C horizon (if it occurs):*

Hue—7.5YR or 10YR  
Value—4 to 6  
Chroma—4 to 8  
Fine-earth texture—sandy loam, loam, or sandy clay loam  
Rock fragment content—35 to 75 percent

## **Orrville Series**

*Physiographic province:* Valley and Ridge

*Landform:* Depressions and backswamps on flood plains along creeks and rivers  
mainly underlain by acid and nonacid sedimentary rocks throughout the county

*Flooding:* Occasional

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone,  
siltstone, and shale

*Drainage class:* Somewhat poorly drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 0 to 3 percent

### **Associated Soils**

- Derroc soils, which are well drained; in flood plain positions that are similar to those of the Orrville soils but better drained
- Gladehill soils, which are well drained; in flood plain positions that are similar but better drained
- Holly soils, which are poorly drained; in similar flood plain positions
- Lobdell soils, which are moderately well drained; in flood plain positions that are similar but better drained
- Philo soils, which are moderately well drained; in flood plain positions that are similar but better drained
- Pope soils, which are well drained; in flood plain positions that are similar but better drained
- Sensabaugh soils, which are well drained; in flood plain positions that are similar but better drained
- Wolfgap soils, which are well drained; in flood plain positions that are similar but better drained



### **Taxonomic Classification**

Fine-loamy, mixed, active, nonacid, mesic Fluventic Endoaquepts

### **Typical Pedon**

Orrville silt loam, 0 to 3 percent slopes, occasionally flooded; in Pocahontas County, West Virginia; approximately 200 feet north-northeast of the intersection of Highway WV-28 and the entrance to the Buckskin Boy Scout Reservation on a bearing of 40 degrees, in a meadow; Clover Lick, West Virginia USGS 7.5 Minute Quadrangle; approximate lat. 38 degrees 16 minutes 12 seconds N. and long. 79 degrees 57 minutes 50 seconds W.

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) silt loam; moderate medium subangular blocky structure parting to moderate medium granular; friable; many very fine to medium roots; 2 percent rounded gravel; neutral; abrupt smooth boundary.

BA—9 to 13 inches; yellowish brown (10YR 5/4) silt loam; weak fine and medium subangular blocky structure; friable; common very fine and fine roots; 5 percent rounded gravel; slightly acid; clear wavy boundary.

Bg1—13 to 25 inches; grayish brown (10YR 5/2) silt loam; weak medium and coarse subangular blocky structure; friable; common very fine roots; few fine faint light brownish gray (2.5Y 6/2) iron depletions; many medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; 5 percent rounded gravel; strongly acid; clear wavy boundary.

Bg2—25 to 40 inches; grayish brown (2.5Y 5/2) silt loam; weak medium and coarse subangular blocky structure; friable; few very fine roots; few fine faint gray (10YR 6/1) iron depletions; common medium prominent yellowish red (5YR 5/8) and few medium prominent reddish yellow (7.5YR 6/8) masses of oxidized iron; 5 percent rounded gravel; strongly acid; clear wavy boundary.

Cg1—40 to 50 inches; gray (10YR 6/1) silt loam; massive; friable; common coarse prominent strong brown (7.5YR 5/8), few medium prominent reddish yellow (7.5YR 6/8) and few fine prominent yellowish red (5YR 5/6) masses of oxidized iron; 10 percent rounded gravel; strongly acid; gradual wavy boundary.

Cg2—50 to 65 inches; gray (10YR 5/1) very gravelly loam; massive; friable; many coarse prominent reddish yellow (7.5YR 6/8) and common medium prominent yellowish red (5YR 5/8) masses of oxidized iron; 40 percent rounded gravel; strongly acid.

### **Range in Characteristics**

*Solum thickness:* 28 to 42 inches

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, strongly acid to slightly acid

*Ap or A horizon:*

Hue—10YR

Value—2 to 4

Chroma—1 or 2

Fine-earth texture—silt loam

Rock fragment content—0 to 5 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow may occur

*BA horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—3 to 6

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Fine-earth texture—loam or silt loam

Rock fragment content—0 to 15 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray may occur

### *Bg horizon:*

Hue—10YR to 5Y

Value—4 to 6

Chroma—1 or 2

Fine-earth texture—loam, silt loam, or silty clay loam; sandy loam in thin layers in some pedons

Rock fragment content—0 to 15 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and, in some pedons, redoximorphic depletions in shades of brown or gray within the gleyed matrix

### *Cg horizon:*

Hue—10YR to 5Y

Value—4 to 6

Chroma—1 or 2

Fine-earth texture—sandy loam, loam, or silt loam

Rock fragment content—0 to 25 percent in the upper part of horizon and 0 to 40 percent in the lower part

Other features—redoximorphic concentrations in shades of red, brown, or yellow and in some pedons, redoximorphic depletions in shades of brown or gray within the gleyed matrix

## Peaks Series

*Physiographic province:* Blue Ridge

*Landform:* Mountains

*Flooding:* None

*Parent material:* Residuum weathered from granite, granulite, and charnockite

*Drainage class:* Somewhat excessively drained

*Slowest saturated hydraulic conductivity:* High

*Depth class:* Moderately deep

*Slope range:* 3 to 70 percent

### Associated Soils

- Edneytown soils, which are very deep to bedrock; in landform positions similar to those of the Peaks soils
- Myersville soils, which are deep to greenstone bedrock; in similar landform positions
- Pignut soils, which are moderately deep to greenstone bedrock; in similar landform positions
- Saunook soils, which are very deep to bedrock; in colluvial positions
- Thunder soils, which are very deep to bedrock; in colluvial positions

### Taxonomic Classification

Loamy-skeletal, mixed, active, mesic Typic Dystrudepts

### Typical Pedon

Peaks gravelly sandy loam in an area of Peaks-Edneytown complex, 35 to 70 percent slopes, very rocky (fig. 29); in Rockbridge County, Virginia; approximately 3,100 feet south-southwest of the intersection of Forest Service Road 105 and U.S. Highway 60 on a bearing of 198 degrees, in the area of Indian Gap, in woodland; Buena Vista,

Soil Survey of Rockbridge County, Virginia

Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 43 minutes 07 seconds N. and long. 79 degrees 18 minutes 58 seconds W.

Oe—0 to 2 inches; moderately decomposed plant material.

A—2 to 6 inches; dark brown (7.5YR 3/3) gravelly sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many very fine to medium roots; 16 percent gravel; very strongly acid; abrupt smooth boundary.



Figure 29.—A soil profile of Peaks gravelly sandy loam, formed from the weathering of granitic rock. Depth is marked in inches.



Bw1—6 to 14 inches; brown (7.5YR 4/4) gravelly sandy loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; many very fine and fine and common medium roots; 30 percent gravel; very strongly acid; clear smooth boundary.

Bw2—14 to 23 inches; brown (7.5YR 4/4) very gravelly sandy loam; weak fine and medium subangular blocky structure; friable, nonsticky, nonplastic; common very fine and fine and few medium roots; 55 percent gravel; very strongly acid; abrupt irregular boundary.

Cr—23 to 29 inches; soft weathered charnockite bedrock.

R—29 inches; moderately hard charnockite bedrock.

#### **Range in Characteristics**

*Solum thickness:* 14 to 38 inches

*Depth to bedrock:* 20 to 40 inches

*Reaction:* In unlimed areas, very strongly acid or strongly acid

#### *A horizon:*

Hue—7.5YR or 10YR

Value—2 to 4

Chroma—2 to 4

Fine-earth texture—sandy loam

Rock fragment content—15 to 35 percent

#### *Bw horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 8

Fine-earth texture—loam, fine sandy loam, or sandy loam

Rock fragment content—35 to 60 percent

## **Philo Series**

*Physiographic province:* Valley and Ridge

*Landform:* Flood plains along creeks and rivers mainly underlain by acid shale and siltstone

*Flooding:* Occasional

*Parent material:* Alluvium derived from acid shale, siltstone, and sandstone

*Drainage class:* Moderately well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 0 to 3 percent

#### **Associated Soils**

- Derroc soils, which are well drained; on flood plains throughout the county
- Holly soils, which are poorly drained; on flood plains throughout the county
- Orrville soils, which are somewhat poorly drained; on flood plains throughout the county
- Pope soils, which are well drained; on flood plains similar to those of the Philo soils

#### **Taxonomic Classification**

Coarse-loamy, mixed, active, mesic Fluvaquentic Dystrudepts

#### **Typical Pedon**

Philo fine sandy loam, 0 to 3 percent slopes, occasionally flooded; in Rockbridge County, Virginia; approximately 3.2 miles west-southwest of the intersection of

## Soil Survey of Rockbridge County, Virginia

Highways VA-780 and VA-39 on a bearing of 240 degrees along Brattons Run, in the area of Goshen, in woodland; Millboro, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 56 minutes 56 seconds N. and long. 79 degrees 33 minutes 34 seconds W.

A—0 to 9 inches; dark brown (10YR 3/3) fine sandy loam; moderate fine and medium granular structure; friable, nonsticky, nonplastic; common very fine and fine and few medium and coarse roots; 2 percent rounded gravel; strongly acid; gradual wavy boundary.

Bw1—9 to 23 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium and coarse subangular blocky structure; friable, nonsticky, nonplastic; few very fine to coarse roots; 2 percent rounded gravel; strongly acid; clear wavy boundary.

Bw2—23 to 30 inches; brown (10YR 5/3) loam; weak medium and coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine and fine roots; common medium faint grayish brown (10YR 5/2) iron depletions; common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron, and few fine distinct very dark brown (10YR 2/2) manganese masses; 2 percent rounded gravel; strongly acid; clear wavy boundary.

Cg—30 to 65 inches; grayish brown (10YR 5/2) cobbly loam; massive; friable, slightly sticky, slightly plastic; common medium faint light brownish gray (10YR 6/2) iron depletions; common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; 20 percent rounded gravel and 10 percent rounded cobbles; strongly acid.

### Range in Characteristics

*Solum thickness:* 20 to 48 inches

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, very strongly acid to moderately acid

#### *A horizon:*

Hue—7.5YR or 10YR

Value—3 or 4

Chroma—2 or 3

Fine-earth texture—fine sandy loam

Rock fragment content—0 to 15 percent

#### *Bw horizon:*

Hue—7.5YR to 2.5Y

Value—3 to 6

Chroma—3 to 6

Fine-earth texture—loam, fine sandy loam, or sandy loam

Rock fragment content—0 to 20 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray within 24 inches of the surface

#### *Cg horizon:*

Hue—7.5YR to 5Y

Value—4 to 6

Chroma—1 or 2

Fine-earth texture—loam, fine sandy loam, or sandy loam

Rock fragment content—0 to 40 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and, in some pedons, redoximorphic depletions in shades of brown or gray within the gleyed matrix

## Pignut Series

*Physiographic province:* Blue Ridge

*Landform:* Mountains

*Flooding:* None

*Parent material:* Residuum weathered from greenstone

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Moderately deep

*Slope range:* 3 to 70 percent

### Associated Soils

- Edneytown soils, which are very deep to granitic bedrock; in landform positions similar to those of the Pignut soils
- Peaks soils, which are moderately deep to granitic bedrock; in similar landform positions
- Myersville soils, which are deep to bedrock; in similar landform positions

### Taxonomic Classification

Fine-loamy, mixed, active, mesic Typic Hapludalfs

### Typical Pedon

Pignut silt loam in an area of Pignut-Myersville complex, 3 to 15 percent slopes, very stony; in Rockbridge County, Virginia; approximately 4,700 feet west-southwest of the intersection of Highway VA-56 and the Blue Ridge Parkway on a bearing of 238 degrees, in the area of Aggies Mountain, in woodland; Vesuvius, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 52 minutes 39 seconds N. and long. 79 degrees 09 minutes 51 seconds W.

Oe—0 to 2 inches; moderately decomposed plant material.

A—2 to 7 inches; very dark brown (7.5YR 2.5/2) silt loam; weak fine granular structure; friable, nonsticky, nonplastic; many fine to coarse roots; 10 percent greenstone gravel; strongly acid; abrupt smooth boundary.

BA—7 to 9 inches; dark brown (7.5YR 3/4) silt loam; weak fine granular structure; friable, nonsticky, nonplastic; many fine to coarse roots; 8 percent greenstone gravel; strongly acid; clear wavy boundary.

Bt1—9 to 18 inches; strong brown (7.5YR 4/6) silt loam; weak fine and medium subangular blocky structure; friable, slightly sticky, nonplastic; common fine to coarse roots; common distinct clay films on all faces of peds; 8 percent greenstone gravel; strongly acid; gradual wavy boundary.

Bt2—18 to 31 inches; strong brown (7.5YR 4/6) silty clay loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine to coarse roots; common distinct clay films on all faces of peds; 10 percent greenstone gravel; strongly acid; gradual wavy boundary.

C—31 to 37 inches; strong brown (7.5YR 4/6) channery silt loam; massive; friable, nonsticky, nonplastic; few fine and medium roots; 20 percent greenstone channers; moderately acid; gradual wavy boundary.

R—37 inches; hard greenstone bedrock.

### Range in Characteristics

*Solum thickness:* 20 to 40 inches

*Depth to bedrock:* 20 to 40 inches

*Reaction:* In unlimed areas, strongly acid to slightly acid



*A horizon:*

Hue—5YR to 10YR  
Value—2 to 5  
Chroma—2 to 4  
Fine-earth texture—silt loam  
Rock fragment content—0 to 15 percent

*BA horizon:*

Hue—5YR to 10YR  
Value—3 to 6  
Chroma—3 to 6  
Fine-earth texture—silt loam or loam  
Rock fragment content—0 to 35 percent

*Bt horizon:*

Hue—5YR to 10YR  
Value—4 or 5  
Chroma—4 to 8  
Fine-earth texture—silt loam, loam, clay loam, or silty clay loam  
Rock fragment content—0 to 35 percent

*C horizon:*

Hue—5YR to 10YR  
Value—3 to 5  
Chroma—2 to 6  
Fine-earth texture—silt loam or loam  
Rock fragment content—15 to 60 percent

## Plott Series

*Physiographic province:* Blue Ridge

*Landform:* Mountains at high elevations

*Flooding:* None

*Parent material:* Residuum weathered from granite, granulite, and charnockite

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* High

*Depth class:* Very deep

*Slope range:* 3 to 35 percent

### Associated Soils

- Saunook soils, which are very deep to bedrock; in colluvial positions
- Thunder soils, which are very deep to bedrock and have a loamy-skeletal particle-size class; in colluvial positions
- Unaka soils, which are moderately deep to bedrock; in landform positions similar to those of the Plott soils

### Taxonomic Classification

Fine-loamy, isotic, mesic Typic Humudepts

### Typical Pedon

Plott gravelly loam in an area of Unaka-Plott complex, 3 to 15 percent slopes, very stony; in Rockbridge County, Virginia; approximately 8,400 feet south-southwest of the intersection of the Blue Ridge Parkway and Highway VA-686 on a bearing of 194 degrees, on Elk Pond Mountain along the Rockbridge-Nelson County line, in woodland; Montebello, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 48 minutes 54 seconds N. and long. 79 degrees 09 minutes 54 seconds W.

Oe—0 to 1 inch; moderately decomposed plant material.

A1—1 to 6 inches; very dark brown (10YR 2/2) gravelly loam, grayish brown (10YR 5/2) dry; weak fine granular structure; very friable, nonsticky, nonplastic; many fine to coarse roots; 15 percent gravel; very strongly acid; clear wavy boundary.

A2—6 to 12 inches; dark brown (10YR 3/3) gravelly loam, brown (10YR 5/3) dry; weak medium subangular blocky structure; friable, nonsticky, nonplastic; many fine to coarse roots; 15 percent gravel; very strongly acid; clear wavy boundary.

Bw1—12 to 17 inches; dark yellowish brown (10YR 4/6) gravelly loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine and medium roots; 20 percent gravel; very strongly acid; clear wavy boundary.

Bw2—17 to 30 inches; yellowish brown (10YR 5/6) gravelly loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine and medium roots; 30 percent gravel; very strongly acid; gradual wavy boundary.

Bw3—30 to 48 inches; yellowish brown (10YR 5/6) gravelly loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine and medium roots; 20 percent gravel; very strongly acid; gradual wavy boundary.

C—48 to 62 inches; yellowish brown (10YR 5/6) very gravelly loam; massive; friable, nonsticky, nonplastic; few fine and medium roots; 35 percent gravel; very strongly acid.

#### **Range in Characteristics**

*Solum thickness:* 30 inches or more

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, very strongly acid or strongly acid

#### *A horizon:*

Thickness—10 inches or more

Hue—7.5YR or 10YR

Value—2 or 3 moist; 5 or less dry

Chroma—1 to 3

Fine-earth texture—loam

Rock fragment content—15 to 35 percent

#### *Bw horizon:*

Hue—7.5YR or 10YR

Value—3 to 5

Chroma—4 to 8

Fine-earth texture—loam, sandy loam, or sandy clay loam

Rock fragment content—0 to 35 percent

#### *C horizon:*

Hue—7.5YR to 2.5Y

Value—3 to 6

Chroma—2 to 8

Fine-earth texture—loam or sandy loam

Rock fragment content—0 to 60 percent

## **Pope Series**

*Physiographic province:* Valley and Ridge

*Landform:* Flood plains along creeks and rivers mainly underlain by acid shale and siltstone

*Flooding:* Occasional

*Parent material:* Alluvium derived from acid shale, siltstone, and sandstone

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

## Soil Survey of Rockbridge County, Virginia

*Depth class:* Very deep

*Slope range:* 0 to 3 percent

### Associated Soils

- Derroc soils, which are well drained and have a loamy-skeletal particle-size class; on flood plains throughout the county
- Holly soils, which are poorly drained; on flood plains throughout the county
- Orrville soils, which are somewhat poorly drained; on flood plains throughout the county
- Philo soils, which are moderately well drained; on flood plains similar to those of the Pope soils

### Taxonomic Classification

Coarse-loamy, mixed, active, mesic Fluventic Dystrudepts

### Typical Pedon

Pope fine sandy loam, 0 to 2 percent slopes, rarely flooded; in Tazewell County, Virginia; approximately 3.5 miles south of Bluefield, Virginia, 100 feet south of Highway VA-61, and 800 feet west of the Tazewell-Bland County line, in cropland; Cove Creek, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 11 minutes 03 seconds N. and long. 81 degrees 16 minutes 19 seconds W.

Ap—0 to 8 inches; dark yellowish brown (10YR 3/4) fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many very fine and fine roots; many fine tubular and very fine vesicular pores; 5 percent rounded gravel; moderately acid; abrupt wavy boundary.

Bw1—8 to 15 inches; brown (7.5YR 4/4) gravelly sandy loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; many very fine and fine roots; many fine tubular and very fine vesicular pores; 15 percent rounded gravel; strongly acid; clear wavy boundary.

Bw2—15 to 27 inches; strong brown (7.5YR 4/6) sandy loam; weak medium subangular blocky structure; very friable, nonsticky, nonplastic; few very fine roots; many fine tubular and very fine vesicular pores; few organic stains on all faces of peds; 5 percent rounded gravel; strongly acid; clear wavy boundary.

Bw3—27 to 45 inches; strong brown (7.5YR 4/6) gravelly sandy loam; weak medium subangular blocky structure; very friable, nonsticky, nonplastic; few very fine roots; many fine tubular and very fine vesicular pores; 20 percent rounded gravel; very strongly acid; clear wavy boundary.

C—45 to 65 inches; strong brown (7.5YR 4/6) very gravelly loamy sand; single grain; loose, nonsticky, nonplastic; few very fine roots; many fine tubular and fine vesicular pores; 45 percent rounded gravel; very strongly acid.

### Range in Characteristics

*Solum thickness:* 30 inches or more

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, extremely acid to moderately acid

*Ap horizon:*

Hue—10YR

Value—3 or 4

Chroma—3 or 4

Fine-earth texture—fine sandy loam

Rock fragment content—0 to 15 percent

*Bw horizon:*

Hue—7.5YR or 10YR

Value—4 or 5  
Chroma—4 to 6  
Fine-earth texture—sandy loam, fine sandy loam, or loam  
Rock fragment content—0 to 30 percent

*C horizon:*

Hue—7.5YR or 10YR  
Value—4 to 6  
Chroma—3 to 6  
Fine-earth texture—loamy sand, sandy loam, or fine sandy loam  
Rock fragment content—0 to 75 percent

## **Purdy Series**

*Physiographic province:* Valley and Ridge

*Landform:* Depressions and backswamps on intermediate to high level stream terraces

*Flooding:* None

*Parent material:* Old alluvium derived from sandstone, siltstone, and shale and, to a lesser extent, limestone and dolomitic limestone

*Drainage class:* Poorly drained

*Slowest saturated hydraulic conductivity:* Moderately low

*Depth class:* Very deep

*Slope range:* 0 to 3 percent

### **Associated Soils**

- Cottonbend soils, which are well drained; in landform positions that are similar to those of the Purdy soils but better drained
- Nicelytown soils, which are moderately well drained; in landform positions that are similar but better drained
- Shottower soils, which are well drained; in landform positions that are similar but better drained
- Tygart soils, which are somewhat poorly drained; in similar landform positions

### **Taxonomic Classification**

Fine, mixed, active, mesic Typic Endoaquults

### **Typical Pedon**

Purdy silty clay loam, 0 to 4 percent; in Botetourt County, Virginia; approximately 4.5 miles northeast of Oriskany and 2,000 feet south of Craig Creek, in a grassed area; Strom, Virginia USGS 7.5 Minute Quadrangle; approximate lat. 37 degrees 38 minutes 28 seconds N. and long. 79 degrees 56 minutes 40 seconds W.

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate fine granular structure; friable, slightly sticky, slightly plastic; common very fine and fine roots; strongly acid; abrupt smooth boundary.

Btg1—7 to 11 inches; grayish brown (10YR 5/2) silty clay loam; weak fine subangular blocky structure; firm, slightly sticky, slightly plastic; common very fine roots; few faint clay films on all faces of peds; few medium prominent charcoal fragments; strongly acid; clear smooth boundary.

Btg2—11 to 22 inches; gray (10YR 5/1) clay; weak fine and medium subangular blocky structure; very firm, moderately sticky, very plastic; few very fine roots; few faint clay films on all faces of peds; many coarse prominent yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid; abrupt smooth boundary.

Btg3—22 to 32 inches; dark gray (5Y 4/1) clay; weak fine and medium subangular blocky structure; very firm, moderately sticky, very plastic; few very fine roots;

## Soil Survey of Rockbridge County, Virginia

- few distinct clay films on all faces of peds; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron; extremely acid; clear wavy boundary.
- Cg1—32 to 47 inches; variegated gray (10YR 6/1) and light gray (N 7/) clay loam; massive; firm, moderately sticky, moderately plastic; 1 percent gravel; very strongly acid; clear wavy boundary.
- Cg2—47 to 55 inches; light gray (5Y 7/1) silty clay loam; massive; firm, moderately sticky, moderately plastic; few medium faint light greenish gray (5GY 7/1) iron depletions; common coarse prominent strong brown (7.5YR 5/8) masses of oxidized iron; very strongly acid; clear wavy boundary.
- Cg3—55 to 65 inches; variegated gray (10YR 6/1) and light gray (5Y 7/1) clay loam; massive; firm, moderately sticky, moderately plastic; few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron; strongly acid.

### Range in Characteristics

*Solum thickness:* 28 to 50 inches

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, extremely acid to strongly acid

#### *Ap horizon:*

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—1 or 2

Fine-earth texture—silty clay loam

Rock fragment content—0 to 2 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and, in some pedons, redoximorphic depletions in shades of brown or gray within the gleyed matrix

#### *Btg horizon:*

Hue—10YR to 5Y

Value—4 or 5

Chroma—1 or 2

Fine-earth texture—clay loam, silty clay loam, silty clay, or clay

Rock fragment content—0 to 2 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and, in some pedons, redoximorphic depletions in shades of brown or gray within the gleyed matrix

#### *Cg horizon:*

Hue—10YR to 5Y

Value—4 to 7

Chroma—1 or 2

Fine-earth texture—clay loam, silty clay loam, silty clay, or clay

Rock fragment content—0 to 10 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and, in some pedons, redoximorphic depletions in shades of brown or gray within the gleyed matrix

## Rough Series

*Physiographic province:* Valley and Ridge

*Landform:* Hills and mountains

*Flooding:* None

*Parent material:* Residuum weathered from acid shale and siltstone

*Drainage class:* Somewhat excessively drained

*Slowest saturated hydraulic conductivity:* High

## Soil Survey of Rockbridge County, Virginia

*Depth class:* Very shallow

*Slope range:* 15 to 100 percent

### Associated Soils

- Berks soils, which are moderately deep to bedrock; in landform positions similar to those of the Rough soils
- Escatawba soils, which are very deep to bedrock; in colluvial positions
- Weikert soils, which are shallow bedrock; in similar landform positions

### Taxonomic Classification

Loamy-skeletal, mixed, active, acid, mesic Lithic Udorthents

### Typical Pedon

Rough very channery silt loam in an area of Weikert-Berks-Rough complex, 35 to 70 percent slopes; in Rockbridge County, Virginia; approximately 3,850 feet west-southwest of the intersection of Highway VA-780 and Forest Service Road 328 on a bearing of 245 degrees, along Black Run in the area of Little California, in woodland; Millboro, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 55 minutes 19 seconds N. and long. 79 degrees 35 minutes 48 seconds W.

Oe—0 to 1 inch; moderately decomposed plant material.

A—1 to 2 inches; very dark grayish brown (10YR 3/2) very channery silt loam; weak medium granular structure; very friable, nonsticky, nonplastic; common very fine to coarse roots; 40 percent acid shale channers; very strongly acid; abrupt smooth boundary.

Bw—2 to 5 inches; yellowish brown (10YR 5/6) very channery silt loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; common very fine to coarse roots; 50 percent acid shale channers; very strongly acid; abrupt wavy boundary.

C—5 to 7 inches; yellowish brown (10YR 5/6) extremely channery silt loam; massive; friable, nonsticky, nonplastic; common very fine to medium roots; 75 percent acid shale channers; very strongly acid; abrupt wavy boundary.

R—7 inches; fissile acid shale bedrock.

### Range in Characteristics

*Solum thickness:* 0 to 8 inches

*Depth to bedrock:* 4 to 10 inches

*Reaction:* In unlimed areas, extremely acid or very strongly acid

#### *A horizon:*

Hue—10YR

Value—2 to 4

Chroma—1 to 4

Fine-earth texture—silt loam

Rock fragment content—35 to 60 percent

#### *Bw horizon:*

Hue—7.5YR to 2.5Y

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—silt loam or loam

Rock fragment content—35 to 75 percent

#### *C horizon:*

Hue—10YR to 2.5Y

Value—4 to 6



Chroma—4 to 8

Fine-earth texture—silt loam or loam

Rock fragment content—45 to 80 percent

## Saunook Series

*Physiographic province:* Blue Ridge

*Landform:* Side slopes, base of slopes of mountain, in drainageways

*Flooding:* None

*Parent material:* Colluvium derived from granite, granulite, and charnockite

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 3 to 55 percent

### Associated Soils

- Edneytown soils, which formed in residuum weathered from granitic and gneissic rocks; on adjacent mountains
- Myersville soils, which are deep to greenstone bedrock; on adjacent mountains
- Peaks soils, which formed in residuum weathered from granitic and gneissic rocks; on adjacent mountains
- Pignut soils, which are moderately deep to greenstone bedrock; on adjacent mountains
- Plott soils, which formed in residuum weathered from granitic and gneissic rocks; on adjacent mountains
- Thunder soils, which have a loamy-skeletal particle-size class; in landform positions similar to those of Saunook soils
- Unaka soils, which formed in residuum weathered from granitic and gneissic rocks; on adjacent mountains

### Taxonomic Classification

Fine-loamy, mixed, superactive, mesic Humic Hapludults

### Typical Pedon

Saunook gravelly loam in an area of Thunder-Saunook complex, 15 to 35 percent slopes, very bouldery; in Rockbridge County, Virginia; approximately 2,900 feet north-northeast of Yankee Horse Ridge Parking Area on a bearing of 22 degrees, in the area of Wigwam Mountain, in woodland; Montebello, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 48 minutes 58 seconds N. and long. 79 degrees 10 minutes 28 seconds W.

Oe—0 to 1 inch; moderately decomposed plant material.

A1—1 to 8 inches; very dark grayish brown (10YR 3/2) gravelly loam, dark grayish brown (10YR 4/2) dry; weak fine granular structure; friable, nonsticky, nonplastic; many very fine to coarse roots; 20 percent gravel and 5 percent cobbles; very strongly acid; clear wavy boundary.

A2—8 to 13 inches; dark yellowish brown (10YR 3/4) loam, yellowish brown (10YR 5/4) dry; weak fine and medium subangular blocky structure; friable, nonsticky, nonplastic; common very fine to coarse roots; 10 percent gravel; very strongly acid; clear wavy boundary.

Bt1—13 to 24 inches; strong brown (7.5YR 4/6) clay loam; weak fine and medium subangular blocky structure; friable, slightly sticky, nonplastic; common very fine to coarse roots; few distinct clay films on all faces of peds and on rock fragments; 10 percent gravel; very strongly acid; clear wavy boundary.

- Bt2—24 to 41 inches; yellowish red (5YR 4/6) gravelly clay loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine to coarse roots; many distinct clay films on all faces of peds and on rock fragments; 18 percent gravel; very strongly acid; gradual wavy boundary.
- Bt3—41 to 54 inches; yellowish red (5YR 4/6) cobbly clay loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, nonplastic; few very fine to medium roots; many distinct clay films on all faces of peds and on rock fragments; 10 percent gravel and 15 percent cobbles; very strongly acid; gradual wavy boundary.
- BC—54 to 65 inches; strong brown (7.5YR 4/6) very cobbly loam; weak medium and coarse subangular blocky structure; friable, slightly sticky, nonplastic; few very fine roots; 10 percent gravel, 20 percent cobbles and 10 percent stones; very strongly acid.

#### **Range in Characteristics**

*Solum thickness:* 40 inches or more

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, very strongly acid to moderately acid in the A and very strongly acid to slightly acid in the B horizon

##### *A horizon:*

Thickness—7 inches or more

Hue—7.5YR or 10YR

Value—2 or 3 moist; 5 or less dry

Chroma—1 to 4

Fine-earth texture—loam

Rock fragment content—15 to 35 percent

##### *Bt horizon:*

Hue—5YR to 10YR

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—loam, silt loam, sandy clay loam, or clay loam

Rock fragment content—0 to 35 percent

##### *BC horizon:*

Hue—5YR to 10YR

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—loam, sandy loam, sandy clay loam, or clay loam

Rock fragment content—0 to 50 percent

## **Sensabaugh Series**

*Physiographic province:* Valley and Ridge

*Landform:* Flood plains along creeks mainly underlain by limestone and dolomitic limestone

*Flooding:* Occasional

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 0 to 3 percent

### Associated Soils

- Derroc soils, which are well drained; on flood plains throughout the county
- Holly soils, which are poorly drained; on flood plains throughout the county
- Lobdell soils, which are moderately well drained; on flood plains similar to those of the Sensabaugh soils
- Orrville soils, which are somewhat poorly drained; on flood plains throughout the county

### Taxonomic Classification

Fine-loamy, mixed, semiactive, mesic Dystric Fluventic Eutrudepts

### Typical Pedon

Sensabaugh loam in an area of Sensabaugh-Lobdell-Derroc complex, 0 to 3 percent slopes, occasionally flooded; in Rockbridge County, Virginia; approximately 1.1 miles northeast of the intersection of Highways VA-611 and VA-661, and 1.7 miles south (170 degrees) of the intersection of Highways VA-662 and VA-612 along South Buffalo Creek, in a grassed area; Natural Bridge, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 41 minutes 44 seconds N. and long. 79 degrees 36 minutes 24 seconds W.

A—0 to 9 inches; brown (7.5YR 4/3) loam; weak fine granular structure; friable, nonsticky, nonplastic; many fine to coarse roots; 5 percent rounded gravel; slightly acid; clear smooth boundary.

Bw1—9 to 22 inches; brown (7.5YR 4/4) gravelly loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; common fine to coarse roots; 20 percent rounded gravel; moderately acid; clear smooth boundary.

Bw2—22 to 27 inches; strong brown (7.5YR 4/6) gravelly loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; common fine and medium roots; 18 percent rounded gravel; moderately acid; gradual wavy boundary.

BC—27 to 39 inches; strong brown (7.5YR 4/6) gravelly loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; few fine and medium roots; few black (10YR 2/1) manganese coatings on rock fragments; 30 percent rounded gravel; neutral; gradual wavy boundary.

C—39 to 61 inches; variegated strong brown (7.5YR 5/6) and strong brown (7.5YR 4/6) very cobbly sandy loam; single grain; loose, nonsticky, nonplastic; few fine roots; few black (10YR 2/1) manganese coatings on rock fragments; 25 percent rounded gravel and 30 percent rounded cobbles; neutral.

### Range in Characteristics

*Solum thickness:* 24 to 55 inches

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, moderately acid to slightly alkaline

#### *A horizon:*

Hue—7.5YR or 10YR

Value—3 or 4

Chroma—2 to 4

Fine-earth texture—loam

Rock fragment content—5 to 15 percent

#### *Bw horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Fine-earth texture—loam, clay loam, sandy clay loam, silt loam, or silty clay loam  
Rock fragment content—15 to 40 percent; weighted average of less than 35 percent in the particle-size control section

*BC horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Fine-earth texture—loam, clay loam, sandy clay loam, silt loam, or silty clay loam

Rock fragment content—15 to 40 percent; weighted average of less than 35 percent in the particle-size control section

*C horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Fine-earth texture—loam, sandy loam, fine sandy loam, silt loam, clay loam, sandy clay loam, or silty clay loam

Rock fragment content—15 to 70 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray may occur at a depth below 40 inches from the surface

## **Sherando Series**

*Physiographic province:* Blue Ridge

*Landform:* Side slopes and base of slopes of mountains

*Flooding:* None

*Parent material:* Colluvium derived from the Antietam metaquartzite

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* High

*Depth class:* Very deep

*Slope range:* 35 to 80 percent

### **Associated Soils**

- Lostcove soils, which have less sand in the subsoil than the Sherando soils; in major drainageways and in similar landform positions
- Marbleyard soils, which are moderately deep to bedrock; on adjacent mountains

### **Taxonomic Classification**

Loamy-skeletal, siliceous, active, mesic Typic Dystrudepts

### **Typical Pedon**

Sherando gravelly sandy loam in an area of Marbleyard-Sherando-Rock outcrop complex, 55 to 80 percent slopes, extremely stony; in Rockbridge County, Virginia; approximately 3,800 feet north-northwest of the intersection of Highway VA-603 and the head of the Whetstone Ridge Trail on a bearing of 355 degrees along Irish Creek, on South Mountain, in woodland; Cornwall, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 48 minutes 23 seconds N. and long. 79 degrees 17 minutes 06 seconds W.

Oe—0 to 2 inches; moderately decomposed plant material.

A—2 to 5 inches; very dark brown (10YR 2/2) gravelly sandy loam; weak fine granular structure; friable, nonsticky, nonplastic; many very fine to coarse roots; 30 percent metaquartzite gravel; very strongly acid; abrupt smooth boundary.

- E—5 to 7 inches; yellowish brown (10YR 5/4) gravelly sandy loam; weak fine granular structure; friable, nonsticky, nonplastic; many very fine to coarse roots; 30 percent metaquartzite gravel; very strongly acid; abrupt wavy boundary.
- Bw1—7 to 20 inches; yellowish brown (10YR 5/6) very gravelly sandy loam; weak fine and medium subangular blocky structure; friable, nonsticky, nonplastic; common very fine to coarse roots; 35 percent metaquartzite gravel; very strongly acid; clear wavy boundary.
- Bw2—20 to 26 inches; yellowish brown (10YR 5/6) very gravelly sandy loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; few very fine and fine roots; 40 percent metaquartzite gravel; very strongly acid; clear wavy boundary.
- Bw3—26 to 43 inches; brownish yellow (10YR 6/6) extremely gravelly sandy loam; weak medium and coarse subangular blocky structure; friable, nonsticky, nonplastic; few very fine and fine roots; 40 percent metaquartzite gravel and 20 percent metaquartzite cobbles; very strongly acid; clear wavy boundary.
- C—43 to 62 inches; yellow (10YR 7/8) extremely cobbly loamy sand; single grain; loose, nonsticky, nonplastic; few very fine roots; 25 percent metaquartzite gravel, 40 percent metaquartzite cobbles and 10 percent metaquartzite stones; very strongly acid.

#### **Range in Characteristics**

*Solum thickness:* 30 to 60 inches

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, extremely acid to moderately acid in the A horizon and very strongly acid or strongly acid in the B and C horizons

##### *A horizon:*

Hue—10YR

Value—2 to 4

Chroma—2 to 4

Fine-earth texture—sandy loam

Rock fragment content—15 to 35 percent

##### *E horizon:*

Hue—10YR

Value—4 to 6

Chroma—3 to 6

Fine-earth texture—sandy loam or fine sandy loam

Rock fragment content—15 to 35 percent

##### *Bw horizon:*

Hue—7.5YR to 2.5Y

Value—5 or 6

Chroma—4 to 8

Fine-earth texture—sandy loam, fine sandy loam, or loamy sand

Rock fragment content—35 to 75 percent

##### *C horizon:*

Hue—7.5YR to 2.5Y

Value—5 to 7

Chroma—4 to 8

Fine-earth texture—sandy loam or loamy sand

Rock fragment content—35 to 75 percent

## Shottower Series

*Physiographic province:* Valley and Ridge

*Landform:* High level stream terraces

*Flooding:* None

*Parent material:* Old alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 3 to 35 percent

### Associated Soils

- Cottonbend soils, which have a fine-loamy particle-size class; in landform positions similar to those of the Shottower soils
- Nicelytown soils, which are moderately well drained; in similar landform positions
- Purdy soils, which are poorly drained; in similar landform positions
- Tygart soils, which are somewhat poorly drained; in similar landform positions

### Taxonomic Classification

Fine, kaolinitic, mesic Typic Paleudults

### Typical Pedon

Shottower fine sandy loam, 8 to 15 percent slopes; in Rockbridge County, Virginia; approximately 3,400 feet south-southwest of the intersection of Highways VA-130 and VA-708 on a bearing of 186 degrees, in the area of Natural Bridge Station, in hayland; Arnold Valley, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 36 minutes 50 seconds N. and long. 79 degrees 30 minutes 34 seconds W.

Ap—0 to 7 inches; brown (7.5YR 4/4) fine sandy loam; moderate fine granular structure; friable, slightly sticky, slightly plastic; many very fine and fine roots; 10 percent rounded sandstone gravel; moderately acid; abrupt wavy boundary.

Bt1—7 to 15 inches; reddish brown (5YR 4/4) clay loam; moderate medium subangular blocky structure; friable, slightly sticky, moderately plastic; common very fine and fine roots; common distinct clay films on all faces of peds; 2 percent rounded sandstone gravel; moderately acid; gradual wavy boundary.

Bt2—15 to 31 inches; red (2.5YR 4/6) clay; moderate medium and coarse subangular blocky structure; friable, moderately sticky, moderately plastic; common very fine and fine roots; many prominent clay films on all faces of peds; 5 percent rounded sandstone gravel; moderately acid; gradual wavy boundary.

Bt3—31 to 50 inches; red (10R 4/6) gravelly clay; moderate medium and coarse subangular blocky structure; friable, moderately sticky, moderately plastic; few very fine roots; many prominent clay films on all faces of peds and common prominent clay films on rock fragments; 20 percent rounded sandstone gravel and 10 percent rounded sandstone cobbles; very strongly acid; clear wavy boundary.

Bt4—50 to 62 inches; red (10R 4/6) very gravelly clay; moderate medium and coarse subangular blocky structure; friable, moderately sticky, moderately plastic; many prominent clay films on all faces of peds and common prominent clay films on rock fragments; 35 percent rounded sandstone gravel and 10 percent rounded sandstone cobbles; very strongly acid.

### Range in Characteristics

*Solum thickness:* 60 inches or more

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, extremely acid to moderately acid



*Ap horizon:*

Hue—7.5YR or 10YR  
Value—3 to 5  
Chroma—3 or 4  
Fine-earth texture—fine sandy loam  
Rock fragment content—0 to 35 percent

*A horizon (if it occurs):*

Hue—7.5YR or 10YR  
Value—2 or 3  
Chroma—2 or 3  
Fine-earth texture—fine sandy loam, loam, or silt loam  
Rock fragment content—0 to 35 percent

*E or BE horizon (if it occurs):*

Hue—7.5YR or 10YR  
Value—5 or 6  
Chroma—3 or 4  
Fine-earth texture—fine sandy loam or loam  
Rock fragment content—0 to 35 percent

*Bt horizon:*

Hue—10R to 7.5YR  
Value—4 or 5  
Chroma—4 to 8  
Fine-earth texture—clay, clay loam, or sandy clay loam  
Rock fragment content—0 to 35 percent above a depth of 40 inches and 0 to 60 percent below this depth

## **Slabtown Series**

*Physiographic province:* Valley and Ridge

*Landform:* Upland drainageways and base of hillslopes

*Flooding:* None

*Parent material:* Local colluvium weathered from limestone, dolomitic limestone, and some interbedded sandstone and shale

*Drainage class:* Moderately well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 0 to 15 percent

### **Associated Soils**

- Caneyville soils, which are moderately deep to bedrock; on adjacent hills
- Frederick soils, which have a fine particle-size class; on adjacent hills
- Groseclose soils, which have a fine particle-size class; on adjacent hills
- Needmore soils, which are moderately deep to bedrock; on adjacent hills
- Opequon soils, which are shallow to bedrock; on adjacent hills
- Watahala soils, which have a cherty fine-loamy over clayey particle-size class; on adjacent hills

### **Taxonomic Classification**

Fine-loamy, mixed, semiactive, mesic Aquic Paleudalfs

### **Typical Pedon**

Slabtown silt loam, 0 to 8 percent slopes; in Rockbridge County, Virginia; approximately 3,200 feet west-northwest of the intersection of U.S. Highway 11 and

## Soil Survey of Rockbridge County, Virginia

Highway VA-706 on a bearing of 276 degrees, in the area of Steeles Fort, in hayland; Vesuvius, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 54 minutes 31 seconds N. and long. 79 degrees 14 minutes 41 seconds W.

Ap—0 to 9 inches; brown (10YR 4/3) silt loam; moderate fine granular structure; friable, slightly sticky, nonplastic; many very fine and fine roots; 10 percent gravel; slightly acid; abrupt smooth boundary.

BA—9 to 14 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable, slightly sticky, nonplastic; common very fine and fine roots; 2 percent gravel; slightly acid; clear wavy boundary.

Bt1—14 to 24 inches; yellowish brown (10YR 5/8) silty clay loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine roots; common distinct clay films on all faces of peds; common black (10YR 2/1) manganese masses; 2 percent gravel; moderately acid; gradual wavy boundary.

Bt2—24 to 35 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine roots; common distinct clay films on all faces of peds; common fine prominent light brownish gray (10YR 6/2) iron depletions; few black (10YR 2/1) manganese masses; 2 percent gravel; moderately acid; clear smooth boundary.

2Bt3—35 to 42 inches; yellowish brown (10YR 5/4) clay; strong medium and coarse subangular blocky structure; firm, moderately sticky, very plastic; many prominent clay films on all faces of peds; many medium distinct grayish brown (10YR 5/2) iron depletions; moderately acid; clear wavy boundary.

2Bt4—42 to 57 inches; yellowish brown (10YR 5/6) silty clay; moderate medium and coarse subangular blocky structure; firm, moderately sticky, moderately plastic; many prominent clay films on all faces of peds; many medium prominent light brownish gray (10YR 6/2) iron depletions; 3 percent chert gravel; moderately acid; gradual wavy boundary.

2Bt5—57 to 64 inches; yellowish brown (10YR 5/6) clay; moderate medium and coarse subangular blocky structure; firm, moderately sticky, moderately plastic; many prominent clay films on all faces of peds; many fine prominent light brownish gray (10YR 6/2) iron depletions; common fine prominent red (2.5YR 4/6) masses of oxidized iron; 10 percent chert gravel; moderately acid.

### Range in Characteristics

*Solum thickness:* 60 inches or more

*Depth to bedrock:* 60 inches or more

*Depth to 2Bt horizon:* 30 to 50 inches

*Reaction:* In unlimed areas, moderately acid to slightly acid

#### *Ap horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—2 to 4

Fine-earth texture—silt loam

Rock fragment content—0 to 15 percent

#### *BA horizon:*

Hue—7.5YR to 10YR

Value—4 or 5

Chroma—4 to 8

Fine-earth texture—silt loam or loam

Rock fragment content—0 to 35 percent

#### *Bt horizon:*

Hue—7.5YR or 10YR

Value—5 or 6

Chroma—4 to 8

Fine-earth texture—loam, silt loam, silty clay loam, or clay loam

Rock fragment content—0 to 35 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray within 30 inches of the surface

**2BT horizon:**

Hue—5YR to 10YR

Value—5 or 6

Chroma—4 to 8

Fine-earth texture—clay, silty clay, or silty clay loam

Rock fragment content—0 to 10 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray

## **Stumptown Series**

*Physiographic province:* Blue Ridge

*Landform:* Mountains

*Flooding:* None

*Parent material:* Residuum weathered from feldspathic metasandstone, metasiltstone, and metashale

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* High

*Depth class:* Moderately deep

*Slope range:* 15 to 80 percent

### **Associated Soils**

- Lostcove soils, which are very deep to bedrock; in colluvial positions
- Marbleyard soils, which have more sand in the subsoil than the Stumptown soils; in landform positions similar to those of the Stumptown soils
- McCamy soils, which have a fine-loamy particle-size class; in similar landform positions
- Sylco soils, which have more silt in the subsoil; in similar landform positions

### **Taxonomic Classification**

Loamy-skeletal, mixed, active, mesic Inceptic Hapludults

### **Typical Pedon**

Stumptown gravelly sandy loam in an area of Stumptown-Marbleyard-Rock outcrop complex, 35 to 55 percent slopes, extremely stony; in Rockbridge County, Virginia; approximately 1,100 feet due north of a boulder which blocks Forest Service Road 104 at the headwaters of Big Mary's Creek, in the area of Wilkie Ridge, in woodland; Montebello, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 52 minutes 12 seconds N. and long. 79 degrees 11 minutes 03 seconds W.

Oa—0 to 1 inch; highly decomposed plant material.

A—1 to 2 inches; very dark brown (10YR 2/2) gravelly sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common very fine to coarse roots; 30 percent gravel; very strongly acid; abrupt wavy boundary.

- E—2 to 3 inches; brown (10YR 5/3) gravelly loam; weak fine granular structure; very friable, nonsticky, nonplastic; common very fine to coarse roots; 30 percent gravel; extremely acid; abrupt wavy boundary.
- BE—3 to 8 inches; light olive brown (2.5Y 5/6) gravelly loam; weak fine and medium granular structure; friable, nonsticky, nonplastic; common very fine to coarse roots; 30 percent gravel; very strongly acid; gradual wavy boundary.
- Bt—8 to 17 inches; brownish yellow (10YR 6/6) very gravelly loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine to coarse roots; common distinct clay films on all faces of peds and on rock fragments; 30 percent gravel and 15 percent cobbles; strongly acid; clear wavy boundary.
- C—17 to 33 inches; brownish yellow (10YR 6/6) extremely stony loam; massive; friable, slightly sticky, slightly plastic; few very fine and fine roots; 15 percent gravel, 30 percent cobbles and 40 percent stones; very strongly acid; gradual wavy boundary.
- R—33 inches; feldspathic metasandstone bedrock.

#### **Range in Characteristics**

*Solum thickness:* 12 to 30 inches

*Depth to bedrock:* 20 to 40 inches

*Reaction:* In unlimed areas, extremely acid to strongly acid

##### *A horizon:*

Hue—7.5YR or 10YR

Value—2 to 5

Chroma—1 to 3

Fine-earth texture—sandy loam

Rock fragment content—15 to 35 percent

##### *E horizon:*

Hue—7.5YR to 2.5Y

Value—5 to 7

Chroma—3 to 6

Fine-earth texture—sandy loam or loam

Rock fragment content—15 to 35 percent

##### *BE horizon:*

Hue—7.5YR to 2.5Y

Value—4 or 5

Chroma—3 to 6

Fine-earth texture—sandy loam or loam

Rock fragment content—15 to 35 percent

##### *Bt horizon:*

Thickness—10 inches or less

Hue—7.5YR or 10YR

Value—5 or 6

Chroma—4 to 8

Fine-earth texture—loam, sandy clay loam, or clay loam

Rock fragment content—35 to 60 percent

##### *C horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—sandy loam, loam, or sandy clay loam

Rock fragment content—35 to 90 percent

## Sylco Series

*Physiographic province:* Blue Ridge

*Landform:* Mountains

*Flooding:* None

*Parent material:* Residuum weathered from metasiltstone, metashale, and fine grained metasandstone

*Drainage class:* Somewhat excessively drained

*Slowest saturated hydraulic conductivity:* High

*Depth class:* Moderately deep

*Slope range:* 15 to 80 percent

### Associated Soils

- Lostcove soils, which are very deep to bedrock; in colluvial positions
- Marbleyard soils, which have more sand in the subsoil than the Sylco soils; in landform positions similar to those of the Sylco soils
- McCamy soils, which have an argillic horizon and a fine-loamy particle-size class; in similar landform positions
- Stumptown soils, which have a thin argillic horizon; in similar landform positions

### Taxonomic Classification

Loamy-skeletal, mixed, active, mesic Typic Dystrudepts

### Typical Pedon

Sylco channery loam in an area of Sylco-Marbleyard complex, 35 to 55 percent slopes, very rocky; in Rockbridge County, Virginia; approximately 7,900 feet north-northwest of the intersection of Highway VA-607 and Forest Service Road 164 on a bearing of 325 degrees along Pedlar Run, in woodland; Buena Vista, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 42 minutes 24 seconds N. and long. 79 degrees 20 minutes 42 seconds W.

Oe—0 to 1 inch; moderately decomposed plant material.

A—1 to 2 inches; brown (10YR 4/3) channery loam; weak fine granular structure; very friable, nonsticky, nonplastic; many very fine to medium roots; 20 percent channers; very strongly acid; abrupt smooth boundary.

BE—2 to 6 inches; yellowish brown (10YR 5/4) channery loam; moderate medium subangular blocky structure parting to weak fine granular; very friable, nonsticky, nonplastic; many very fine to coarse roots; 25 percent channers; very strongly acid; clear wavy boundary.

Bw1—6 to 16 inches; yellowish brown (10YR 5/6) very channery loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine to coarse roots; 45 percent channers; very strongly acid; gradual wavy boundary.

Bw2—16 to 22 inches; yellowish brown (10YR 5/8) extremely channery loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine to coarse roots; 65 percent channers; very strongly acid; clear wavy boundary.

C—22 to 29 inches; yellowish brown (10YR 5/8) extremely channery loam; massive; friable, slightly sticky, slightly plastic; few very fine and fine roots; 80 percent channers; very strongly acid; gradual irregular boundary.

R—29 inches; moderately hard metasiltstone interbedded with metasandstone bedrock.

### Range in Characteristics

*Solum thickness:* 15 to 40 inches

*Depth to bedrock:* 20 to 40 inches

*Reaction:* In unlimed areas, extremely acid to strongly acid

*A horizon:*

Hue—10YR

Value—3 or 4

Chroma—2 to 4

Fine-earth texture—loam

Rock fragment content—15 to 35 percent

*BE horizon:*

Hue—10YR or 2.5YR

Value—4 or 5

Chroma—3 to 6

Fine-earth texture—loam or silt loam

Rock fragment content—15 to 35 percent

*Bw horizon:*

Hue—7.5YR or 10YR

Value—3 to 6

Chroma—3 to 8

Fine-earth texture—loam or silt loam

Rock fragment content—35 to 65 percent

*C horizon:*

Hue—7.5YR or 10YR

Value—3 to 6

Chroma—3 to 8

Fine-earth texture—loam or silt loam

Rock fragment content—40 to 80 percent

## Thunder Series

*Physiographic province:* Blue Ridge

*Landform:* Sideslopes, base of slopes of mountains and in drainageways

*Flooding:* None

*Parent material:* Colluvium derived from granite, granulite, and charnockite

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 3 to 55 percent

### Associated Soils

- Edneytown soils, which formed in residuum weathered from granitic and gneissic rocks; on adjacent mountains
- Myersville soils, which are deep to greenstone bedrock; on adjacent mountains
- Peaks soils, which formed in residuum weathered from granitic and gneissic rocks; on adjacent mountains
- Pignut soils, which are moderately deep to greenstone bedrock; on adjacent mountains
- Plott soils, which formed in residuum weathered from granitic and gneissic rocks; on adjacent mountains
- Saunook soils, which have a fine-loamy particle-size class; in landform positions similar to those of Thunder soils
- Unaka soils, which formed in residuum weathered from granitic and gneissic rocks; on adjacent mountains



### **Taxonomic Classification**

Loamy-skeletal, mixed, active, mesic Humic Hapludults

### **Typical Pedon**

Thunder very cobbly loam in an area of Thunder-Saunook complex, 15 to 35 percent slopes, very bouldery; in Rockbridge County, Virginia; approximately 3,100 feet north-northeast of Yankee Horse Ridge Parking Area on the Blue Ridge Parkway on a bearing of 28 degrees, in the area of Wigwam Mountain, in woodland; Montebello, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 48 minutes 59 seconds N. and long. 79 degrees 10 minutes 24 seconds W.

Oe—0 to 2 inches; moderately decomposed plant material.

A1—2 to 16 inches; very dark brown (10YR 2/2) very cobbly loam, very dark grayish brown (10YR 3/2) dry; moderate fine and medium granular structure; friable, nonsticky, nonplastic; many very fine to coarse roots; 15 percent gravel, 20 percent cobbles and 5 percent stones; very strongly acid; abrupt wavy boundary.

A2—16 to 22 inches; dark brown (10YR 3/3) very gravelly loam, yellowish brown (10YR 5/4) dry; weak fine and medium subangular blocky structure; friable, nonslightly, nonplastic; common very fine to coarse roots; 30 percent gravel, 5 percent cobbles and 5 percent stones; very strongly acid; clear wavy boundary.

Bt1—22 to 38 inches; brown (7.5YR 4/4) extremely stony loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, nonplastic; common very fine to coarse roots; common distinct clay films on all faces of peds and on rock fragments; 10 percent gravel, 30 percent cobbles and 25 percent stones; very strongly acid; gradual wavy boundary.

Bt2—38 to 46 inches; strong brown (7.5YR 4/6) very cobbly loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, nonplastic; common very fine to coarse roots; common distinct clay films on all faces of peds and on rock fragments; 15 percent gravel, 30 percent cobbles and 10 percent stones; very strongly acid; gradual wavy boundary.

BC—46 to 65 inches; dark yellowish brown (10YR 4/6) very cobbly loam; weak medium and coarse subangular blocky structure; friable, slightly sticky, nonplastic; few very fine roots; 20 percent gravel and 35 percent cobbles; strongly acid.

### **Range in Characteristics**

*Solum thickness:* 50 inches or more

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, very strongly acid to slightly acid

#### *A horizon:*

Thickness—7 inches or more

Hue—10YR

Value—2 or 3 moist; 5 or less dry

Chroma—1 to 4

Fine-earth texture—loam

Rock fragment content—35 to 60 percent

#### *Bt horizon:*

Hue—5YR to 10YR

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—loam, clay loam, or sandy clay loam

Rock fragment content—35 to 80 percent

#### *BC horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—6 to 8

Fine-earth texture—loam, sandy loam, sandy clay loam, or clay loam

Rock fragment content—35 to 80 percent

## Toms Series

*Physiographic province:* Valley and Ridge

*Landform:* Depressions and backswamps on low level stream terraces

*Flooding:* Rare

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

*Drainage class:* Somewhat poorly drained

*Slowest saturated hydraulic conductivity:* Moderately low

*Depth class:* Very deep

*Slope range:* 0 to 3 percent

### Associated Soils

- Alonzville soils, which are well drained; in landform positions that are similar to those of the Toms soils but better drained
- Botetourt soils, which are moderately well drained; in landform positions that are similar but better drained
- Coursey soils, which are moderately well drained; in landform positions that are similar but better drained
- Ingledove soils, which are well drained; in landform positions that are similar but better drained
- Maurertown soils, which are poorly drained; in similar landform positions

### Taxonomic Classification

Fine, mixed, semiactive, mesic Aeric Endoaqualfs

### Typical Pedon

Toms silt loam, 0 to 4 percent slopes, rarely flooded; in Botetourt County, Virginia; approximately 1.75 miles northwest of Fincastle, 0.5 mile northeast of the intersection of Highways VA-606 and VA-600, and 400 feet northwest of Catawba Creek, in pasture; Oriskany, Virginia USGS 7.5 Minute Quadrangle; approximate lat. 37 degrees 30 minutes 55 seconds N. and long. 79 degrees 54 minutes 07 seconds W.

Ap—0 to 7 inches; brown (10YR 4/3) silt loam; strong fine and medium granular structure; friable, slightly sticky, slightly plastic; many very fine and fine roots; neutral; abrupt smooth boundary.

Bt—7 to 24 inches; yellowish brown (10YR 5/8) clay; moderate medium and coarse subangular blocky structure; very firm, moderately sticky, moderately plastic; few very fine roots; many prominent gray (10YR 5/1) clay films on all faces of peds; many medium prominent light brownish gray (10YR 6/2) iron depletions; 2 percent rounded gravel; neutral; gradual smooth boundary.

Btg1—24 to 36 inches; grayish brown (10YR 5/2) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few very fine roots; common distinct gray (10YR 5/1) clay films on all faces of peds; many medium prominent yellowish brown (10YR 5/8) masses of oxidized iron, and few medium black (10YR 2/1) manganese concretions; 2 percent rounded gravel; slightly alkaline; gradual wavy boundary.

Btg2—36 to 53 inches; light brownish gray (10YR 6/2) silty clay loam; moderate fine subangular blocky structure; firm, moderately sticky, moderately plastic; few distinct gray (10YR 5/1) clay films on all faces of peds; common fine prominent

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yellowish brown (10YR 5/8) masses of oxidized iron, and few medium black (10YR 2/1) manganese concretions; 2 percent rounded gravel; slightly alkaline; clear wavy boundary.

C—53 to 65 inches; yellowish brown (10YR 5/8) silty clay loam; massive; firm, slightly sticky, moderately plastic; common distinct clay flows; common fine prominent grayish brown (10YR 5/2) iron depletions; slightly alkaline.

### Range in Characteristics

*Solum thickness:* 40 inches or more

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, moderately acid to slightly alkaline

#### *Ap or A horizon:*

Hue—10YR

Value—3 to 5

Chroma—2 to 4

Fine-earth texture—silt loam

Rock fragment content—0 to 5 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow may occur

#### *Bt horizon:*

Hue—7.5YR to 2.5Y

Value—5 to 7

Chroma—3 to 8

Fine-earth texture—silty clay loam, silty clay, or clay

Rock fragment content—0 to 5 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray (chroma of 2 or less) within the upper 5 inches of the argillic horizon

#### *Btg horizon:*

Hue—7.5YR to 5Y

Value—5 to 7

Chroma—1 or 2

Fine-earth texture—silty clay loam, silty clay, or clay

Rock fragment content—0 to 35 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and, in some pedons, redoximorphic depletions in shades of brown or gray within the gleyed matrix

#### *C horizon:*

Hue—7.5YR to 5Y

Value—5 to 7

Chroma—3 to 8

Fine-earth texture—clay loam, silty clay loam, silty clay, or clay

Rock fragment content—0 to 35 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray

#### *Cg horizon (if it occurs):*

Hue—7.5YR to 5Y

Value—5 to 7

Chroma—1 or 2

Fine-earth texture—clay loam, silty clay loam, silty clay, or clay

Rock fragment content—0 to 35 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray within the gleyed matrix

## Tumbling Series

*Physiographic province:* Valley and Ridge and western flank of Blue Ridge

*Landform:* Nose slopes and side slopes at base of slopes of mountains

*Flooding:* None

*Parent material:* Old colluvium derived from sandstone, shale, siltstone, limestone, dolomitic limestone, quartzite, metasandstone, and phyllite

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 3 to 35 percent

### Associated Soils

- Vanella soils, which have a fine-loamy particle-size class; in landform positions similar to those of the Tumbling soils
- Needmore soils, which are moderately deep to bedrock; on adjacent mountains
- Oriskany soils, which have a loamy-skeletal particle-size class; in younger colluvial positions
- Murrill soils, which formed partly in colluvium derived mainly from sandstone and shale and partly in the underlying residuum weathered from limestone and calcareous shale; in younger colluvial positions

### Taxonomic Classification

Fine, kaolinitic, mesic Typic Paleudults

### Typical Pedon

Tumbling cobbly fine sandy loam in an area of Vanella-Tumbling complex, 15 to 35 percent slopes, very stony; in Rockbridge County, Virginia; approximately 6,300 feet west-northwest of the intersection of Highways VA-638 and VA-641 on a bearing of 298 degrees, in the area of Little House Mountain, in woodland; Collierstown, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 49 minutes 06 seconds N. and long. 79 degrees 32 minutes 13 seconds W.

Oe—0 to 2 inches; moderately decomposed plant material.

A—2 to 5 inches; dark brown (10YR 3/3) cobbly fine sandy loam; weak fine and medium granular structure; friable, nonsticky, nonplastic; many fine to coarse roots; 8 percent sandstone gravel and 10 percent sandstone cobbles; very strongly acid; abrupt wavy boundary.

E—5 to 7 inches; dark yellowish brown (10YR 4/4) gravelly loam; weak fine granular structure; friable, nonsticky, nonplastic; many fine to coarse roots; 15 percent sandstone gravel and 5 percent cobbles; very strongly acid; abrupt wavy boundary.

Bt1—7 to 15 inches; yellowish red (5YR 4/6) clay loam; weak fine and medium subangular blocky structure parting to weak fine and medium granular; friable, slightly sticky, slightly plastic; common fine to coarse roots; few faint clay films on surfaces along pores; 5 percent sandstone gravel and 5 percent sandstone cobbles; very strongly acid; clear wavy boundary.

Bt2—15 to 30 inches; yellowish red (5YR 5/8) clay; moderate medium subangular blocky structure; firm, slightly sticky, slightly plastic; common fine to coarse roots; common distinct clay films on all faces of pedis; 5 percent sandstone gravel and 7 percent sandstone cobbles; very strongly acid; gradual wavy boundary.

- Bt3—30 to 62 inches; yellowish red (5YR 5/8) cobbly clay; few prominent yellowish brown (10YR 5/6) and red (10R 4/6) and few faint strong brown (7.5YR 5/8) lithochromic mottles; moderate medium subangular blocky structure; firm, slightly sticky, slightly plastic; few fine to coarse roots; many prominent clay films on all faces of peds and on rock fragments; 5 percent sandstone gravel and 20 percent sandstone cobbles; very strongly acid; gradual wavy boundary.
- Bt4—62 to 65 inches; yellowish red (5YR 5/8) very stony clay; few prominent yellowish brown (10YR 5/6) and red (10R 4/6) and few faint strong brown (7.5YR 5/8) lithochromic mottles; weak medium subangular blocky structure; firm, slightly sticky, slightly plastic; few fine and medium roots; many prominent clay films on all faces of peds and on rock fragments; 5 percent sandstone gravel, 10 percent sandstone cobbles and 35 percent sandstone stones; very strongly acid.

**Range in Characteristics**

*Solum thickness:* 60 inches or more

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, very strongly acid or strongly acid

*A horizon:*

Hue—7.5YR to 10YR

Value—2 or 3

Chroma—2 or 3

Fine-earth texture—fine sandy loam

Rock fragment content—0 to 35 percent

*Ap horizon (if it occurs):*

Hue—7.5YR to 10YR

Value—3 to 5

Chroma—3 to 5

Fine-earth texture—fine sandy loam, sandy loam, or loam

Rock fragment content—0 to 35 percent

*E, BE, or BA horizon:*

Hue—5YR to 10YR

Value—4 to 6

Chroma—3 to 6

Fine-earth texture—sandy loam, fine sandy loam, or loam

Rock fragment content—0 to 35 percent

*Bt horizon (upper part):*

Hue—2.5YR to 7.5YR

Value—4 or 5

Chroma—4 to 8

Fine-earth texture—sandy clay loam, clay loam, or clay; weighted average of 35 percent or more clay in the particle-size control section

Rock fragment content—0 to 35 percent

*Bt horizon (lower part):*

Hue—2.5YR or 5YR

Value—4 or 5

Chroma—4 to 8

Fine-earth texture—clay loam, sandy clay, or clay

Rock fragment content—0 to 60 percent; weighted average of less than 35 percent in the particle-size control section

Other features—in some pedons horizon has mottles in shades of red, yellow, brown, and gray that are inherited from the parent material

## Tygart Series

*Physiographic province:* Valley and Ridge

*Landform:* Depressions and backswamps on intermediate to high level stream terraces

*Flooding:* None

*Parent material:* Old alluvium derived from sandstone, siltstone, and shale and, to a lesser extent, limestone and dolomitic limestone

*Drainage class:* Somewhat poorly drained

*Slowest saturated hydraulic conductivity:* Moderately low

*Depth class:* Very deep

*Slope range:* 0 to 3 percent

### Associated Soils

- Cottonbend soils, which are well drained; in landform positions that are similar to those of the Tygart soils but better drained
- Nicelytown soils, which are moderately well drained; in landform positions that are similar but better drained
- Purdy soils, which are poorly drained; in similar landform positions
- Shottower soils, which are well drained; in landform positions that are similar but better drained

### Taxonomic Classification

Fine, mixed, semiactive, mesic Aeric Endoaquults

### Typical Pedon

Tygart silt loam, 2 to 7 percent slopes; in Botetourt County, Virginia; approximately 1.25 miles northwest of Gala and 800 feet west of the James River, in pasture; Eagle Rock, Virginia USGS 7.5 Minute Quadrangle; approximate lat. 37 degrees 42 minutes 06 seconds N. and long. 79 degrees 49 minutes 45 seconds W.

Ap—0 to 7 inches; brown (10YR 4/3) silt loam; moderate fine and medium granular structure; friable, slightly sticky, slightly plastic; common very fine and fine and few medium roots; moderately acid; abrupt smooth boundary.

BA—7 to 12 inches; brown (10YR 5/3) silty clay loam; moderate very fine and fine subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine and fine and few medium roots; few medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; strongly acid; abrupt smooth boundary.

Btg1—12 to 17 inches; gray (10YR 6/1) silty clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few very fine roots; few distinct clay films on all faces of peds; many medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; strongly acid; clear smooth boundary.

Btg2—17 to 24 inches; grayish brown (10YR 5/2) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few very fine roots; few distinct clay films on all faces of peds; common coarse prominent brownish yellow (10YR 6/8) masses of oxidized iron; very strongly acid; clear smooth boundary.

Btg3—24 to 34 inches; gray (10YR 5/1) clay; moderate medium and coarse subangular blocky structure; very firm, moderately sticky, very plastic; few very fine roots; few distinct clay films on all faces of peds; few medium faint dark gray (10YR 4/1) iron depletions; common coarse prominent yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid; gradual wavy boundary.

Btg4—34 to 49 inches; variegated gray (10YR 5/1) and light gray (N 7/) clay; moderate medium and coarse subangular blocky structure; very firm, moderately sticky, very plastic; few very fine roots; few distinct clay films on faces of coarse peds;



common medium prominent red (2.5YR 5/8) and yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid; clear wavy boundary.  
Cg—49 to 65 inches; variegated gray (10YR 6/1) and gray (10YR 5/1) silty clay loam; massive; firm, moderately sticky, moderately plastic; few very fine roots; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid.

#### **Range in Characteristics**

*Solum thickness:* 35 to 60 inches

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, very strongly acid to moderately acid in the A and BA horizons and extremely acid to strongly acid in the B and C horizons

*Ap horizon:*

Hue—10YR

Value—4 or 5

Chroma—2 or 3

Fine-earth texture—silt loam

Rock fragment content—0 to 3 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow may occur

*BA horizon:*

Hue—10YR or 2.5Y

Value—5 or 6

Chroma—3 to 6

Fine-earth texture—clay loam or silty clay loam

Rock fragment content—0 to 3 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray

*Bt horizon (if it occurs):*

Hue—10YR or 2.5Y

Value—5 or 6

Chroma—3 to 8

Fine-earth texture—clay loam, silty clay loam, silty clay, or clay

Rock fragment content—0 to 3 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray (chroma of 2 or less) within the upper 5 inches of the argillic horizon

*Btg horizon:*

Hue—10YR to 5Y

Value—5 or 6

Chroma—1 or 2

Fine-earth texture—clay loam, silty clay loam, silty clay, or clay

Rock fragment content—0 to 3 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray (chroma of 2 or less) within the upper 5 inches of the argillic horizon; redoximorphic depletions in shades of brown or gray within the gleyed matrix in some pedons

*Cg horizon:*

Hue—10YR to 5Y

Value—5 or 6

Chroma—1 or 2

Fine-earth texture—silty clay loam, silty clay, or clay

Rock fragment content—0 to 35 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and, in some pedons, redoximorphic depletions in shades of brown or gray within the gleyed matrix

## Udorthents

*Physiographic province:* Valley and Ridge

*Landform:* Areas along interstate highways, urban areas, or other areas where surface excavations or other land disturbances occur.

*Flooding:* Variable

*Parent material:* Fill from a variety of sources

*Drainage class:* Variable

*Slowest saturated hydraulic conductivity:* Variable

*Depth class:* Variable

*Slope range:* 0 percent to nearly vertical in excavated places

### Associated Soils

- Udorthents are associated with many soils. Included are any soils that are adjacent to the areas excavated or filled. Additional fill material may be transported to the site.

### Typical Pedon

The properties and characteristics of Udorthents vary to the extent that a typical pedon cannot be given. Udorthents formed when soils were disturbed by land-leveling, excavation, or filling. They consist of loamy and clayey soil material and varying amounts of rock fragments. Depth to bedrock varies from a few inches to more than 5 feet. Areas range from slightly compacted to severely compacted. Unvegetated areas are susceptible to severe erosion.

## Unaka Series

*Physiographic province:* Blue Ridge

*Landform:* Mountains at high elevations

*Flooding:* None

*Parent material:* Residuum weathered from granite, granulite, and charnockite

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* High

*Depth class:* Moderately deep

*Slope range:* 3 to 35 percent

### Associated Soils

- Plott soils, which are very deep to bedrock; in landform positions similar to those of the Unaka soils
- Saunook soils, which are very deep to bedrock; in colluvial positions
- Thunder soils, which are very deep to bedrock and have a loamy-skeletal particle-size class; in colluvial positions

### Taxonomic Classification

Fine-loamy, isotic, mesic Typic Humudepts

### Typical Pedon

Unaka gravelly loam in an area of Unaka-Plott complex, 3 to 15 percent slopes, very stony; in Rockbridge County, Virginia; approximately 8,000 feet south-southwest of the intersection of the Blue Ridge Parkway and Highway VA-686 on a bearing of

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192 degrees, on Elk Pond Mountain along the Rockbridge-Nelson County line, in woodland; Montebello, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 48 minutes 55 seconds N. and long. 79 degrees 09 minutes 53 seconds W.

Oe—0 to 1 inch; moderately decomposed plant material.

A1—1 to 10 inches; very dark brown (10YR 2/2) gravelly loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable, nonsticky, nonplastic; many fine to coarse roots; 15 percent gravel; very strongly acid; abrupt wavy boundary.

A2—10 to 13 inches; very dark grayish brown (10YR 3/2) gravelly loam, grayish brown (10YR 5/2) dry; weak fine and medium granular structure; friable, nonsticky, nonplastic; common fine to coarse roots; 25 percent gravel; very strongly acid; clear wavy boundary.

Bw—13 to 27 inches; yellowish brown (10YR 5/6) gravelly loam; weak fine medium subangular blocky structure; friable, nonsticky, nonplastic; common fine to coarse roots; 30 percent gravel; very strongly acid; abrupt irregular boundary.

R—27 inches; charnockite bedrock.

### Range in Characteristics

*Solum thickness:* 18 to 40 inches

*Depth to bedrock:* 20 to 40 inches

*Reaction:* In unlimed areas, very strongly acid or strongly acid

#### *A horizon:*

Thickness—7 inches or more

Hue—10YR

Value—2 or 3 moist; 5 or less dry

Chroma—2 or 3

Fine-earth texture—loam

Rock fragment content—15 to 35 percent

#### *Bw horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—4 to 6

Fine-earth texture—loam, sandy loam, or sandy clay loam

Rock fragment content—0 to 35 percent

#### *C horizon (if it occurs):*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—4 to 6

Fine-earth texture—loam or sandy loam

Rock fragment content—0 to 35 percent

## Vanella Series

*Physiographic province:* Valley and Ridge and western flank of Blue Ridge

*Landform:* Nose slopes and side slopes at base of slopes of mountains

*Flooding:* None

*Parent material:* Old colluvium derived from sandstone, shale, siltstone, limestone, dolomitic limestone, quartzite, metasandstone, and phyllite

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 3 to 35 percent

### Associated Soils

- Tumbling soils, which have a fine particle-size class; in landform positions similar to those of the Vanella soils
- Needmore soils, which are moderately deep to bedrock; on adjacent mountains
- Oriskany soils, which have a loamy-skeletal particle-size class; in younger colluvial positions; and



Figure 30.—A soil profile of Vanella cobbly fine sandy loam. The lower part of the argillic horizon starting at approximately 32 inches is red, cobbly clay loam. Depth is marked in inches.



- Murrill soils, which formed partly in colluvium derived mainly from sandstone and shale and partly in the underlying residuum weathered from limestone and calcareous shale; in younger colluvial positions

#### **Taxonomic Classification**

Fine-loamy, siliceous, subactive, mesic Typic Paleudults

#### **Typical Pedon**

Vanella cobbly fine sandy loam in an area of Vanella-Tumbling complex, 15 to 35 percent slopes, very stony (fig. 30); in Rockbridge County, Virginia; approximately 4,250 feet north-northwest of the intersection of Highways VA-641 and VA-644 on a bearing of 327 degrees, in the area of Little House Mountain, in woodland; Collierstown, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 49 minutes 05 seconds N. and long. 79 degrees 32 minutes 14 seconds W.

Oe—0 to 2 inches; moderately decomposed plant material.

A—2 to 4 inches; very dark brown (10YR 2/2) cobbly fine sandy loam; weak fine granular structure; friable, nonsticky, nonplastic; many fine to coarse roots; 5 percent sandstone gravel and 15 percent sandstone cobbles; very strongly acid; abrupt wavy boundary.

E—4 to 7 inches; dark yellowish brown (10YR 4/4) cobbly fine sandy loam; weak fine granular structure; friable, nonsticky, nonplastic; many fine to coarse roots; 5 percent sandstone gravel and 15 percent sandstone cobbles; very strongly acid; abrupt wavy boundary.

BE—7 to 24 inches; yellowish brown (10YR 5/4) gravelly fine sandy loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; common fine to coarse roots; 17 percent sandstone gravel and 8 percent sandstone cobbles; very strongly acid; gradual wavy boundary.

Bt1—24 to 32 inches; strong brown (7.5YR 5/6) gravelly loam; moderate medium subangular blocky structure; friable, slightly sticky, nonplastic; few fine to coarse roots; common faint clay films on all faces of peds; 17 percent sandstone gravel and 8 percent sandstone cobbles; very strongly acid; clear wavy boundary.

Bt2—32 to 51 inches; yellowish red (5YR 4/6) cobbly clay loam; moderate medium subangular blocky structure; firm, slightly sticky, slightly plastic; few fine and medium roots; many distinct clay films on all faces of peds; 5 percent sandstone gravel and 17 percent sandstone cobbles; very strongly acid; clear wavy boundary.

Bt3—51 to 65 inches; red (2.5YR 4/8) cobbly clay loam; moderate medium subangular blocky structure; firm, slightly sticky, slightly plastic; many distinct clay films on all faces of peds; 5 percent sandstone gravel and 17 percent sandstone cobbles; very strongly acid.

#### **Range in Characteristics**

*Solum thickness:* 60 inches or more

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, very strongly acid or strongly acid

*A horizon:*

Hue—7.5YR to 10YR

Value—2 to 4

Chroma—1 to 3

Fine-earth texture—fine sandy loam

Rock fragment content—0 to 35 percent

*Ap horizon (if it occurs):*

Hue—7.5YR to 10YR

Value—3 or 4

Chroma—2 to 4

Fine-earth texture—fine sandy loam, sandy loam, or loam

Rock fragment content—0 to 35 percent

*E and BE horizons:*

Hue—5YR to 10YR

Value—4 to 6

Chroma—3 to 6

Fine-earth texture—sandy loam, fine sandy loam, or loam

Rock fragment content—0 to 35 percent

*Bt horizon (upper part):*

Hue—2.5YR to 7.5YR

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—sandy loam, loam, sandy clay loam, or clay loam

Rock fragment content—0 to 35 percent

*Bt horizon (lower part):*

Hue—10R to 5YR

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—sandy clay loam, clay loam, sandy clay, or clay

Rock fragment content—0 to 60 percent; weighted average of less than 35 percent in the particle-size control section

Other features—in some pedons horizon has mottles in shades of red, yellow, brown, and gray that are inherited from the parent material

## Watahala Series

*Physiographic province:* Valley and Ridge

*Landform:* Hills

*Flooding:* None

*Parent material:* Gravelly residuum over clayey residuum weathered from cherty limestone and cherty dolomitic limestone

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 8 to 55 percent

### Associated Soils

- Caneyville soils, which are moderately deep to bedrock; in landform positions similar to those of the Watahala soils
- Carbo soils, which are moderately deep to bedrock; in similar landform positions
- Frederick soils, which have a fine particle-size class; in similar landform positions
- Opequon soils, which are shallow to bedrock; in similar landform positions
- Slabtown soils, which have a fine-loamy particle-size class; in local colluvial positions

### Taxonomic Classification

Fine-loamy over clayey, siliceous over mixed, subactive, mesic Typic Paleudults

### Typical Pedon

Watahala cobbly loam in an area of Watahala-Frederick complex, 15 to 35 percent slopes, very stony; in Rockbridge County, Virginia; approximately 5,600 feet west-northwest of the intersection of Highways VA-252 and VA-726 on a bearing of 300



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degrees, in the area of Pisgah Hill, in woodland; Brownsburg, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 57 minutes 34 seconds N. and long. 79 degrees 19 minutes 07 seconds W.

Oe—0 to 2 inches; moderately decomposed plant material.

A—2 to 3 inches; very dark grayish brown (10YR 3/2) cobbly loam; moderate fine granular structure; very friable, nonsticky, nonplastic; many very fine to coarse roots; 20 percent angular chert gravel and 14 percent angular chert cobbles; strongly acid; abrupt smooth boundary.

E—3 to 13 inches; light yellowish brown (10YR 6/4) gravelly loam; moderate medium subangular blocky structure; friable, nonsticky, nonplastic; many very fine to coarse roots; 20 percent angular chert gravel and 9 percent angular chert cobbles; strongly acid; clear wavy boundary.

Bt1—13 to 21 inches; brownish yellow (10YR 6/6) gravelly loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine to coarse roots; few faint clay films on all faces of peds; 20 percent angular chert gravel and 9 percent angular chert cobbles; very strongly acid; clear wavy boundary.

Bt2—21 to 25 inches; variegated 60 percent reddish yellow (7.5YR 6/6) and 40 percent strong brown (7.5YR 5/8) gravelly clay loam; moderate medium and coarse subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine to coarse roots; many distinct clay films on all faces of peds; 20 percent angular chert gravel and 9 percent angular chert cobbles; very strongly acid; clear wavy boundary.

2Bt3—25 to 48 inches; variegated 75 percent red (2.5YR 4/8) and 25 percent brownish yellow (10YR 6/8) cobbly clay; moderate medium and coarse subangular blocky structure; firm, moderately sticky, moderately plastic; few very fine and fine roots; many distinct clay films on all faces of peds; 5 percent angular chert gravel, 10 percent angular chert cobbles and 4 percent subangular chert stones; very strongly acid; gradual wavy boundary.

2Bt4—48 to 62 inches; variegated 75 percent red (2.5YR 4/8) and 25 percent brownish yellow (10YR 6/8) cobbly clay; moderate medium and coarse subangular blocky structure; firm, moderately sticky, moderately plastic; few very fine and fine roots; many distinct clay films on all faces of peds; 5 percent angular chert gravel and 10 percent angular chert cobbles; very strongly acid.

### Range in Characteristics

*Solum thickness:* 60 inches or more

*Depth to bedrock:* 60 inches or more

*Depth to 2Bt horizon:* 20 to 50 inches

*Reaction:* In unlimed areas, extremely acid to strongly acid in the upper part of the solum and very strongly acid to strongly acid in the 2Bt horizons

*A horizon:*

Hue—10YR

Value—3 or 4

Chroma—2 to 4

Fine-earth texture—loam or silt loam

Rock fragment content—15 to 35 percent

*Ap horizon (if it occurs):*

Hue—10YR

Value—3 or 4

Chroma—2 or 3

Fine-earth texture—loam or silt loam

Rock fragment content—15 to 35 percent

*E horizon:*

Hue—10YR or 2.5Y

Value—5 or 6

Chroma—2 to 4

Fine-earth texture—loam, fine sandy loam, or silt loam

Rock fragment content—15 to 45 percent

*BE horizon (if it occurs):*

Hue—10YR

Value—5 or 6

Chroma—4 to 6

Fine-earth texture—loam, fine sandy loam, or silt loam

Rock fragment content—15 to 45 percent

*Bt horizon:*

Hue—7.5YR or 10YR

Value—5 or 6

Chroma—4 to 8

Fine-earth texture—loam, silt loam, clay loam, or silty clay loam

Rock fragment content—15 to 45 percent; weighted average of less than 35 percent in the particle-size control section

*2Bt horizons:*

Hue—2.5YR to 7.5YR

Value—4 to 6

Chroma—6 to 8

Fine-earth texture—clay or silty clay with 25 percent more clay (absolute) than the overlying horizon; transition zone between the Bt horizon and the 2Bt horizon is less than 5 inches thick

Rock fragment content—0 to 35 percent

## Weaver Series

*Physiographic province:* Valley and Ridge

*Landform:* Flood plains mainly along Hays Creek and its tributaries underlain by limestone and dolomitic limestone

*Flooding:* Occasional

*Parent material:* Alluvium derived from calcium carbonate-rich deposits mixed with limestone, dolomitic limestone, sandstone, siltstone, and shale

*Drainage class:* Moderately well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 0 to 3 percent

### Associated Soils

- Botetourt soils, which are moderately well drained and have an argillic horizon; on low level stream terraces
- Buckton soils, which are well drained; in flood plain positions similar to those of the Weaver soils
- Holly soils, which are poorly drained; on flood plains throughout the county
- Ingledove soils, which are well drained and have an argillic horizon; on low level stream terraces
- Orrville soils, which are somewhat poorly drained; on flood plains throughout the county

### **Taxonomic Classification**

Fine-loamy, mixed, active, mesic Fluvaquentic Eutrudepts

### **Typical Pedon**

Weaver silt loam, 0 to 2 percent slopes, occasionally flooded; in Montgomery County, Virginia; approximately 4,500 feet east (116 degrees) of the westernmost intersection of Highway VA-604 and U.S. Highway 11, and 4 miles west of Christiansburg, in pasture; Blacksburg, Virginia USGS 7.5 Minute Quadrangle; approximate lat. 37 degrees 07 minutes 30 seconds N. and long. 80 degrees 28 minutes 45 seconds W.

Ap—0 to 10 inches; brown (10YR 4/3) silt loam; weak fine granular structure; very friable, slightly sticky, slightly plastic; many very fine to medium roots; common carbonates finely disseminated throughout; strongly effervescent; moderately alkaline; clear smooth boundary.

Bw1—10 to 18 inches; brown (10YR 5/3) silt loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine and fine roots; common carbonates finely disseminated throughout; strongly effervescent; moderately alkaline; clear smooth boundary.

Bw2—18 to 26 inches; brown (10YR 5/3) silt loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine and fine roots; common medium faint grayish brown (10YR 5/2) iron depletions; common medium black (10YR 2/1) manganese masses; common carbonates finely disseminated throughout; strongly effervescent; moderately alkaline; abrupt smooth boundary.

Bw3—26 to 30 inches; dark yellowish brown (10YR 4/6) silt loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine prominent grayish brown (10YR 5/2) iron depletions; common carbonates finely disseminated throughout; strongly effervescent; moderately alkaline; abrupt smooth boundary.

Ab—30 to 49 inches; mixed dark grayish brown (10YR 4/2) silt loam with partially decomposed leaves and twigs; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common carbonates finely disseminated throughout; strongly effervescent; moderately alkaline;; abrupt smooth boundary.

Cg—49 to 60 inches; dark grayish brown (10YR 4/2) gravelly silty clay loam; massive; friable, slightly sticky, slightly plastic; many carbonates finely disseminated throughout; 20 percent sandstone, shale, and chert gravel with carbonate coatings; strongly effervescent; moderately alkaline.

### **Range in Characteristics**

*Solum thickness:* 40 to 60 inches

*Depth to bedrock:* 60 inches or more

*Reaction:* Neutral to moderately alkaline; calcium carbonate equivalent is less than 40 percent

*Secondary carbonates and snail shells:* Typically finely disseminated throughout the horizons

*A horizon:*

Hue—10YR

Value—2 to 4

Chroma—2 to 4

Fine-earth texture—silt loam

Rock fragment content—0 to 15 percent

*Ab horizon:*

Hue—10YR to 2.5Y

Value—2 to 4

Chroma—2 to 4

Fine-earth texture—silt loam or silty clay loam

Rock fragment content—0 to 15 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray

*Bw horizon:*

Hue—10YR to 2.5Y

Value—4 or 5

Chroma—3 to 6

Fine-earth texture—silt loam or silty clay loam

Rock fragment content—0 to 15 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray (chroma of 2 or less) within a depth of 24 inches below the surface

*BCg or Cg horizon (if it occurs):*

Hue—10YR to 2.5Y

Value—4 or 5

Chroma—1 or 2

Fine-earth texture—silt loam or silty clay loam

Rock fragment content—0 to 15 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray within the gleyed matrix

*C horizon (if it occurs):*

Hue—10YR to 5Y

Value—4 or 5

Chroma—3 to 6

Fine-earth texture—loam, silt loam, clay loam, or silty clay loam

Rock fragment content—0 to 35 percent

Other features—redoximorphic concentrations in shades of red, brown, or yellow and redoximorphic depletions in shades of brown or gray

## **Weikert Series**

*Physiographic province:* Valley and Ridge

*Landform:* Hills and mountains

*Flooding:* None

*Parent material:* Residuum weathered from acid shale and siltstone

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* High

*Depth class:* Shallow

*Slope range:* 3 to 100 percent

### **Associated Soils**

- Berks soils, which are moderately deep to bedrock; in landform positions similar to those of the Weikert soils
- Escatawba soils, which are very deep to bedrock; in colluvial positions
- Rough soils, which are very shallow bedrock; in similar landform positions

### **Taxonomic Classification**

Loamy-skeletal, mixed, active, mesic Lithic Dystrudepts

### **Typical Pedon**

Weikert channery silt loam in an area of Weikert-Berks-Rough complex, 35 to 70 percent slopes; in Rockbridge County, Virginia; approximately 3,950 feet west-southwest of the intersection of Highway VA-780 and Forest Service Road 328 on a bearing of 246 degrees along Black Run, in the area of Little California, in woodland; Millboro, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 55 minutes 19 seconds N. and long. 79 degrees 35 minutes 50 seconds W.

Oe—0 to 1 inch; moderately decomposed plant material.

A—1 to 2 inches; dark brown (10YR 3/3) channery silt loam; weak fine and medium granular structure; very friable, nonsticky, nonplastic; common very fine to coarse roots; 25 percent acid shale channers; very strongly acid; abrupt smooth boundary.

E—2 to 4 inches; yellowish brown (10YR 5/4) channery silt loam; weak medium granular structure; very friable, nonsticky, nonplastic; common very fine to coarse roots; 25 percent acid shale channers; very strongly acid; abrupt smooth boundary.

Bw1—4 to 9 inches; yellowish brown (10YR 5/6) very channery silt loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; common very fine to medium roots; 40 percent acid shale channers; very strongly acid; clear wavy boundary.

Bw2—9 to 14 inches; yellowish brown (10YR 5/6) very channery silt loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; few very fine to medium roots; 50 percent acid shale channers; very strongly acid; clear wavy boundary.

C—14 to 17 inches; yellowish brown (10YR 5/6) extremely channery silt loam; massive; friable, nonsticky, nonplastic; few very fine to medium roots; 80 percent acid shale channers; very strongly acid; clear wavy boundary.

R—17 inches; fissile acid shale bedrock.

### **Range in Characteristics**

*Solum thickness:* 8 to 20 inches

*Depth to bedrock:* 10 to 20 inches

*Reaction:* In unlimed areas, extremely acid to strongly acid

#### *A horizon:*

Hue—10YR

Value—3 or 4

Chroma—2 to 4

Fine-earth texture—silt loam

Rock fragment content—15 to 35 percent

#### *E horizon:*

Hue—10YR or 2.5Y

Value—5 or 6

Chroma—2 to 6

Fine-earth texture—silt loam or loam

Rock fragment content—15 to 35 percent

#### *Bw horizon:*

Hue—7.5YR to 2.5Y

Value—4 to 6

Chroma—4 to 6

Fine-earth texture—silt loam or loam

Rock fragment content—35 to 60 percent; weighted average of 35 percent or more in the particle-size control section

*C horizon:*

Hue—7.5YR to 2.5Y

Value—4 to 6

Chroma—4 to 8

Fine-earth texture—silt loam or loam

Rock fragment content—60 to 85 percent

## Wintergreen Series

*Physiographic province:* Blue Ridge

*Landform:* Nose slopes and side slopes at base of mountains in Arnold Valley

*Flooding:* None

*Parent material:* Old colluvium derived from granite, granulite, and charnockite

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 8 to 35 percent

### Associated Soils

- Lostcove soils, which have a loamy-skeletal particle-size class; in colluvial positions, typically in drainageways

### Taxonomic Classification

Fine, mixed, subactive, mesic Typic Paleudults

### Typical Pedon

Wintergreen loam, 2 to 7 percent slopes; in Nelson County, Virginia; approximately 0.5 mile east (80 degrees) of the intersection of Highways VA-668 and VA-653, and 0.9 mile northwest (300 degrees) of the intersection of Highways VA-653 and VA-650, in woodland; Arrington, Virginia USGS 7.5 Minute Quadrangle:

A—0 to 3 inches; brown (7.5YR 4/4) loam; weak fine granular structure; friable, slightly sticky, slightly plastic; many fine to coarse roots; very strongly acid; abrupt wavy boundary.

E—3 to 7 inches; strong brown (7.5YR 4/6) loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; common fine to coarse roots; very strongly acid; clear smooth boundary.

Bt1—7 to 24 inches; red (2.5YR 4/6) clay; moderate fine subangular blocky structure; friable, moderately sticky, moderately plastic; few fine and medium roots; many distinct clay films on all faces of peds; very strongly acid; clear smooth boundary.

Bt2—24 to 35 inches; red (2.5YR 4/6) clay; weak medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots; many distinct clay films on all faces of peds; very strongly acid; clear smooth boundary.

Bt3—35 to 62 inches; red (2.5YR 4/6) clay; few fine distinct strong brown (7.5YR 5/6) and few fine prominent pinkish white (7.5YR 8/2) mottles; weak coarse platy structure parting to weak medium subangular blocky; firm, moderately sticky, moderately plastic; common distinct clay films on all faces of peds; very strongly acid.

### Range in Characteristics

*Solum thickness:* 40 inches or more



*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, extremely acid to strongly acid

*A horizon:*

Hue—7.5YR or 10YR

Value—2 to 4

Chroma—1 to 4

Fine-earth texture—loam

Rock fragment content—0 to 15 percent

*E horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 8

Fine-earth texture—sandy loam, fine sandy loam, or loam

Rock fragment content—0 to 15 percent

*Bt horizon:*

Hue—10R or 2.5YR

Value—3 to 5

Chroma—6 to 8

Fine-earth texture—clay loam, sandy clay, or clay

Rock fragment content—0 to 35 percent in the upper part and 0 to 60 percent in the lower part

Other features—in some pedons horizon has mottles in shades of red, yellow, brown, and gray that are inherited from the parent material in the lower part

## Wolfgap Series

*Physiographic province:* Valley and Ridge

*Landform:* Flood plains along rivers mainly underlain by limestone and dolomitic limestone

*Flooding:* Rare

*Parent material:* Alluvium derived from limestone, dolomitic limestone, sandstone, siltstone, and shale

*Drainage class:* Well drained

*Slowest saturated hydraulic conductivity:* Moderately high

*Depth class:* Very deep

*Slope range:* 0 to 3 percent

### Associated Soils

- Derroc soils, which have loamy-skeletal particle-size class; on flood plains throughout the county
- Gladehill soils, which have more sand than the Wolfgap soils; in similar flood plain positions
- Holly soils, which are poorly drained; on flood plains throughout the county
- Irongate soils, which are moderately well drained; on flood plains similar to those of the Wolfgap soils
- Orrville soils, which are somewhat poorly drained; on flood plains throughout the county

### Taxonomic Classification

Fine-loamy, siliceous, active, mesic Fluventic Hapludolls

### Typical Pedon

Wolfgap loam, 0 to 3 percent slopes, rarely flooded; in Bath County, Virginia; approximately 0.7 mile northeast of the intersection of Highways VA-42 and VA-655, about 2.9 miles southwest of the intersection of Highways VA-39 and VA-42, in pasture; Nimrod Hall, Virginia USGS 7.5 Minute Quadrangle; lat. 37 degrees 58 minutes 23 seconds N. and long. 79 degrees 39 minutes 58 seconds W.

A1—0 to 13 inches; very dark grayish brown (10YR 3/2) loam, brown (10YR 5/3) dry; weak coarse granular structure; friable, nonsticky, nonplastic; common very fine and fine roots; neutral; clear smooth boundary.

A2—13 to 22 inches; dark brown (10YR 3/3) loam, brown (10YR 5/3) dry; weak medium granular structure; friable, nonsticky, nonplastic; common very fine and fine roots; neutral; gradual wavy boundary.

Bw—22 to 52 inches; dark yellowish brown (10YR 4/4) loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; few very fine roots; slightly acid; gradual wavy boundary.

C—52 to 65 inches; brown (10YR 4/3) gravelly sandy loam; massive; very friable, nonsticky, nonplastic; 15 percent rounded gravel; slightly acid.

### Range in Characteristics

*Solum thickness:* 45 to 60 inches

*Depth to bedrock:* 60 inches or more

*Reaction:* In unlimed areas, slightly acid to slightly alkaline

#### *A horizon:*

Thickness—10 to 24 inches

Hue—10YR

Value—2 or 3 moist; 5 or less dry

Chroma—2 or 3

Fine-earth texture—loam

Rock fragment content—0 to 15 percent

#### *Bw horizon:*

Hue—7.5YR or 10YR

Value—3 to 5

Chroma—3 to 6

Fine-earth texture—loam, silt loam, sandy clay loam, or clay loam

Rock fragment content—0 to 15 percent

#### *C horizon:*

Hue—10YR

Value—3 to 5

Chroma—3 to 6

Fine-earth texture—sandy loam, fine sandy loam, or loam

Rock fragment content—15 to 60 percent



# Formation of the Soils

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This section explains the origin and development of soils in the county. It describes the influence of the five factors of soil formation on soils. It also describes the morphology of the soils as it applies to horizon nomenclature, the soil-forming processes, and the geological characteristics of the county.

## Factors of Soil Formation

The soils in Rockbridge County, Virginia have resulted from the interaction of the five major factors of soil formation. They are parent material, time, climate, plant and animal life, and topography (Jenny, 1941). Each factor affects the outcome of soil formation. Soils are often defined in terms of these factors as “dynamic natural bodies having properties derived from the combined effects of climate and biotic activities, as modified by topography, acting on parent materials over periods of time” (Brady, 2002).

## Parent Material and Time

The character of the parent materials strongly influence the time required for soil formation and the nature of the soils produced. The soils in Rockbridge County have formed in residual, colluvial, and alluvial parent materials. They are also referred to as residuum, colluvium, and alluvium, respectively.

Residual parent materials have formed in place and include weathered sedimentary rocks such as limestone, dolomitic limestone, shale, siltstone, sandstone, or quartzite; and metasedimentary, igneous, and metamorphic rocks. In general, residual parent materials are the oldest parent materials in the county. For example, Frederick soils have formed in residual parent material on non-resistant carbonates and show a high degree of development. Dekalb soils also have formed in residual parent materials but are not as well-developed because the soil-forming processes have been hindered by highly resistant sandstone rock and steeper slopes. The section on the County's geology describes in more detail soils that have formed from residual parent materials.

Colluvium is made up of parent materials that have moved downslope under the influence of gravity and is deposited on lower backslopes, footslopes, and toeslopes, and at the heads of and along drainageways. Because the material is in transit or in positions where soil erosion and deposition modify the soil, soil formation is more variable than in residual soils. For example, the Oriskany soils have an accumulation of clay in the subsoil. The Murrill soils have a thinner mantle of deposition with an accumulation of clay and a lithologic discontinuity below 36 inches from the soil surface. Other colluvial soils, such as the Escatawba soils, which geomorphically are on foot slope positions, have formed in parent material which is actually very old. These soils are very strongly leached and have a clay pan. The oldest colluvial soils in the county are the Tumbling and Vanella soils. With a mantle of Tuscarora Sandstone cobbles and boulders that provide an armoring effect, these soils can typically be found in old colluvium on the steeply sloping interfluvies between active, modern hollows in the Martinsburg Formation. These mountain slopes undergo a process

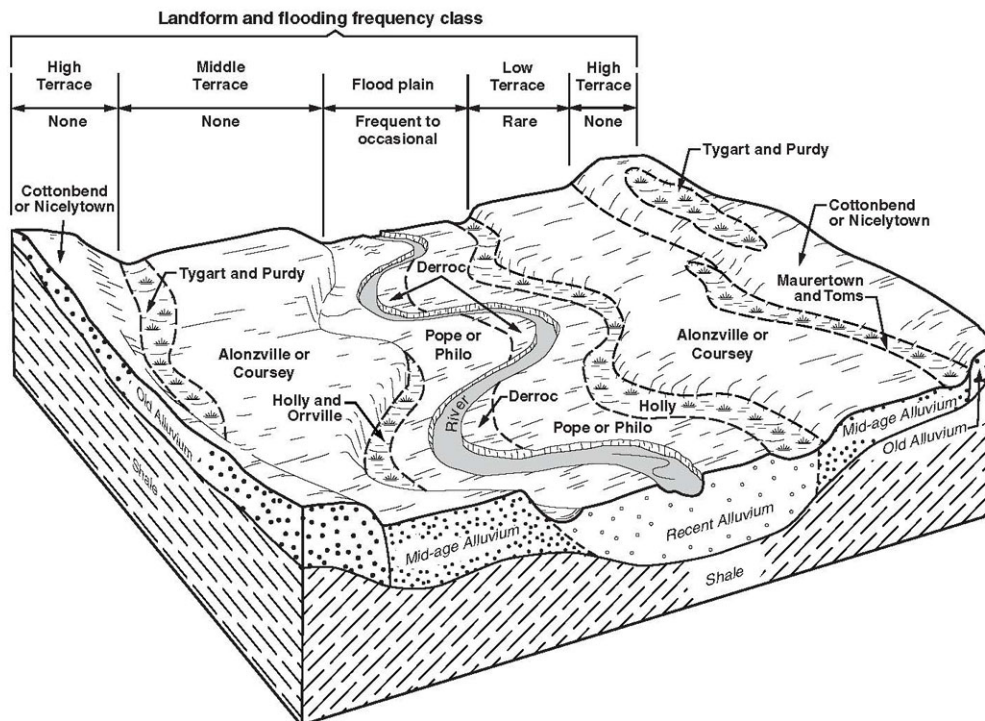


Figure 31.—Generalized diagram of a sequence of landforms along a river system underlain by alluvium over shale bedrock in the western part of Rockbridge County. The soils named on the land surface are shown in their natural relationship to each other and in their relationship to landform position.

of slope retreat where topographic inversion continually changes the location of the hollows (Mills, 1981).

Alluvium is made up of parent materials that have been or are actively being deposited by water on terraces and flood plains. Based on the stability of their landform position, terrace soils range from relatively old to young. The soils on the mid- to high-level stream terraces, for example, Nicelytown and Shottower soils, have well-developed profiles. The soils on low stream terraces, for example, Ingledove and Maurertown soils, have moderately developed profiles. The youngest soils are found on the active flood plains. These soils form near present day rivers such as the Maury, Calpasture, Little Calpasture, South, and Jackson Rivers and streams such as Buffalo, Kerrs, Walkers, and Hays Creeks. Gladehill and Derroc soils, for example, have weakly developed profiles.

## Climate

Climate affects the physical, chemical, and biological relationships in soils, mainly through the influence of precipitation and temperature. Water dissolves minerals, supports biological activity, and transports minerals and organic residue through the soil. Temperature determines the type and rate of physical, chemical, and biological activities occurring in the soil.

Because precipitation in Rockbridge County exceeds evapotranspiration, the soils have been intensively leached. Many of the soluble materials that originally were present or were released through weathering have been removed; except in active flood plains, which are recharged with eroded sediments from surrounding uplands. In addition to leaching soluble materials, water that percolates through the soil moves

clay from the upper layers to the subsoil. These are the processes of eluviation and illuviation. Frederick soils, for example, though formed from the weathering of limestone and dolomitic limestone, are acid in nature because of leaching and have a thick, illuviated clayey subsoil layer.

Climate is relatively uniform throughout most of the survey area. However, the climate's effect on soil formation may be modified locally by the gradient and aspect of slopes. A detailed description of the climate is given in the section "*General Nature of the County.*"

## **Plant and Animal Life**

Microorganisms, vegetation, animals, and humans are major factors in the formation of soils. Microorganisms such as bacteria and fungi from decomposing vegetation and animal matter are largely responsible for the amount of organic matter in the soil, the color of the surface layer, and, in part, the amount of available nutrients necessary for plant growth. Earthworms and other burrowing animals help to keep the soil well aerated, and they mix organic and mineral material within the soil.

Before the survey area was settled, the native vegetation was a major factor affecting soil development. It consisted mainly of hardwoods such as oak, hickory, chestnut, maple, beech, and birch along with hemlock and eastern white pine. Most hardwoods take up a large amount of the available calcium and other bases from the soil and recycle them through root uptake, leaf fall, and decay. Compared to deciduous trees, coniferous trees are less efficient base recyclers. Consequently, more bases have been leached from soils that developed under coniferous vegetation than those that developed under deciduous vegetation. Higher production of organic acids from the leaf litter of conifers also contributes to greater leaching of bases. Other leaf-related influences include greater thickness of leaf litter layer and reduced depth of frost penetration, increased moisture retention, and reduced hazard of erosion on steep slopes.

As farming developed, humans have become an important factor in the development of the soils. The clearing of forests, cultivation, introduction of non-native plant species, and changes in natural drainage have all affected soil development. Important changes brought about by humans are the mixing of the upper layers of the soil to form a plow layer; the cultivation of steep, erodible slopes; and liming and fertilizing that changes the content of plant nutrients in the upper layers of the soil.

## **Topography**

The nature of the underlying bedrock geology as well as the surficial geology largely determine the topography or relief of an area. Topography affects the formation of soils by influencing the amount and rate of surface runoff, the rate of soil erosion, the amount of water moving through the soil, and soil temperature. Soil erosion higher upstream in the watershed favors the formation of soils on flood plains and low level terraces further downstream.

Slopes in Rockbridge County range from nearly level to extremely steep. On the nearly level to strongly sloping areas, large amounts of water move through the soil profile. This movement of water favors the formation of moderately developed to well developed soils that are fairly uniform in depth. However, on very steep to extremely steep mountainsides, the amount and rate of runoff are greater and less water percolates through the profile. Thus soils formed on these steeper slopes are less developed and shallower to bedrock than soils formed on gentler slopes.

Topography also affects internal drainage of the soils. In low-lying flat or depressional areas, water can accumulate and move slowly especially through clayey subsoils. Maurertown and Purdy soils are examples of poorly drained soils typically on those landforms. Soils on convex slopes tend to be better drained. Soils on concave



slopes tend to accumulate water from both runoff and internal drainage, and therefore tend to be less well drained. Caneyville soils are an example of well drained soils on linear to convex residual slopes. Slabtown soils are an example of moderately well drained soils on concave, colluvial slopes.

Topography also affects the amount of radiant energy absorbed by soils, which in turn affects the type of native vegetation. Aspect varies greatly in these areas with south-facing slopes being generally drier than north-facing slopes.

## Morphology of the Soils

The interactions of soil-forming factors and processes result in distinguishable layers, or horizons, in a soil profile. A soil profile extends from the soil surface which is exposed to relatively intense weathering vertically down to horizons less exposed to weathering and thus most similar to its parent material. The five major horizons that occur in the soils are the O, A, E, B, and C horizons.

*O horizons* are typically very dark, organic layers that form at the soil surface. In undisturbed ecosystems such as forests, fallen leaves, and other plant and animal remains accumulate on the surface. They are then subject to physical and biochemical breakdown and transformation. O horizons are described by soil scientists based on their degree of decomposition with slightly decomposed layers overlying more highly decomposed layers.

*A horizons* are surface layers dominated by minerals and darkened by the accumulation of organic matter.

*E horizons* are eluvial layers usually occurring below the O and A horizons, although they are not present in all soils. They have not accumulated organic matter and have been leached of clay, iron, and aluminum oxides. Typically, they are light-colored and composed of resistant materials such as sand- and silt-sized quartz.

*B horizons* are illuvial layers which have an accumulation of clay, iron, and aluminum oxides and other compounds leached from the upper layers of the profile. These horizons may also have accumulated materials from weathering in place rather than by illuviation.

*C horizons* are the least-weathered layers of a soil profile, although plant roots and microorganisms often extend into these layers. They are the parent materials of soils and generally lack structure.

By understanding four broad soil-forming processes we are able to distinguish soils from layers of sediment deposited by geologic processes. These processes are broadly termed as transformations, translocations, additions, and losses. There are myriad reactions and substances involved in soil genesis, and here is mention of just a few. They include the transformation of primary minerals to silicate clay, organic residues to humus, and the reduction of iron and manganese under anaerobic conditions. They include the translocation of illuviated clay and leaching of soluble salts. They include additions of organic matter, water, and sediment. They include losses of materials from the soil profile by leaching to groundwater, and losses of soil particles due to surface erosion. These processes and the influence of the soil-forming factors allow us to better appreciate the diversity of soils, especially those found in Rockbridge County, Virginia.

## Geology and Soil Relationships

Gerald P. Wilkes, geologist, Virginia Department of Mines, Minerals and Energy, helped prepare this section. A detailed description of the geology of Rockbridge County is available in Virginia Division of Geology and Mineral Resources Publication 170.

Rockbridge County includes portions of the Blue Ridge and the Valley and Ridge geologic provinces. Generally speaking, the age of the rocks becomes younger in an east-to-west direction (Precambrian through Devonian period). The eastern quarter

of the county is composed of the oldest rocks, those of the Blue Ridge basement complex, which are Mesoproterozoic age igneous and metamorphic rocks. They were altered over a billion years ago. Neoproterozoic age volcanic activity extruded the Catoctin Formation metabasalts, which overlie the basement complex. The latest Proterozoic and earliest Paleozoic age metasedimentary rocks make up the remainder of the Blue Ridge. The Valley and Ridge is composed of Paleozoic age (Cambrian through Devonian period) sedimentary rocks, dominantly carbonates in the Great Valley and clastic sandstones, shales, and siltstones in the western mountains.

During the pre-Quaternary and Quaternary periods, surficial deposits have been laid down. These depositional materials include alluvial flood plain and terrace sediments, as well as colluvial deposits.

Residual soils are directly formed from the bedrock. The following is a description of the underlying bedrock, in age from oldest to youngest in the county. Also included are the soils directly weathered from these rocks and associated colluvial soils formed on the adjacent landforms.

The oldest rocks make up the Blue Ridge basement complex, an assemblage of igneous and metamorphic rocks, which are dominantly granitic in composition. They include layered granulites and intrusions of charnockites, biotite granite, and hornblende granite. Peaks and Edneytown are common residual soils. Unaka and Plott soils are mapped at the highest elevations. Thunder and Saunook soils have formed in younger colluvium. Wintergreen soils, having formed in old colluvium, were mapped in Arnold Valley.

The Catoctin Formation is a sequence of metabasaltic volcanic flows (commonly referred to as greenstone) and interlayered sedimentary rocks. It is of minor extent in the northeast part of the county. Myersville and Pignut are common residual soils. Thunder and Saunook soils have formed in colluvium.

The Chilhowee Group are siliciclastic, metasedimentary rocks that include the Unicoi, Harpers, and Antietam Formations. The group, as a unit, includes feldspathic metasandstone, metaquartzite, metasilstone, and phyllite.

The Unicoi Formation is dominantly feldspathic metasandstone, metasilstone, and phyllite with outcrop belts of metaquartzite. Stumptown, Marbleyard, and McCamy are common residual soils. Lostcove soils have formed in colluvium.

The Harpers Formation is dominantly metasilstone, phyllite, and metasandstone with outcrop belts of metaquartzite. Sylco and Marbleyard are common residual soils. Lostcove soils have formed in colluvium.

The Antietam Formation caps the group with a thick sequence of metaquartzites. The metaquartzites are white, highly resistant to weathering, and form prominent ledges and hogbacks throughout the formation. Marbleyard are common residual soils. Sherando and Lostcove soils have formed in colluvium.

The Shady Dolomite, a dark gray dolomitic limestone, is not well exposed in the county and is included with the Waynesboro Formation. The Waynesboro is a heterogeneous composition of maroon, green, and gray shale interbedded with limestone, dolomitic limestone and minor beds of sandstone. Litz, Chiswell, and Groseclose are common residual soils. Lostcove soils from the metasedimentary rocks spill into the colluvial drainageways. Tumbling and Vanella soils have formed in old colluvium.

The Elbrook Formation is thin-bedded, light tannish-gray, platy dolomitic limestone and blue limestone interbedded with silty layers. Frederick and Caneyville are common residual soils. Slabtown soils have formed in local colluvium.

The Conococheague Formation is composed of oolitic limestone, sandy laminae in dark-blue limestone, arenaceous light gray dolomitic limestone, and sandstone. Black chert also appears in the unit. The Conococheague forms low, linear hills with the occasional remnant of an old apple orchard still present. Frederick, Watahala, and Caneyville are common residual soils. Slabtown soils have formed in local colluvium.

The Beekmantown Formation is composed of light- to medium-gray dolomitic limestone. Near the top of the unit are light colored, massive chert beds, which are resistant to weathering and form conical-shaped hills east of the Staunton Fault and linear ridges west of the fault. There are also some interbeds of light- to medium-gray limestone. Black chert also appears in the unit. Frederick, Watahala, and Caneyville are common residual soils. Slabtown soils have formed in local colluvium.

The New Market and Lincolnshire limestones are light- to dark-gray limestone with black chert nodules. Needmore, Carbo, Opequon, and Groseclose are common residual soils; Frederick and Watahala to a lesser extent in some places. Slabtown soils have formed in local colluvium.

The Edinburg Formation consists of two different lithologies. Most prevalent in the county is the Liberty Hall lithofacies, a fine-grained, dense, black, thin-bedded limestone interlayered with buff-weathering, fissile, black shale. The Lantz Mill lithofacies occurs only in the northwestern part of the county near Zack. It is massive to nodular, black limestone. Needmore, Groseclose, Carbo, and Opequon are common residual soils. Slabtown soils have formed in local colluvium.

The Martinsburg Formation consists of two different lithologies. The lower part consists of argillaceous limestone interbedded with coarse-crystalline limestone and minor shale beds. The upper part is medium- to light-gray, interbedded sandstone, siltstone, and shale. Needmore, Carbo, Opequon, Groseclose, and Litz are common residual soils. Slabtown, Oriskany, and Murrill soils have formed in younger colluvium. Tumbling, Vanella, and, to a lesser extent, Escatawba soils have formed in old colluvium.

The Juniata Formation is interbedded yellowish-brown to red sandstone and olive-gray shale mudstone. It occurs on Brushy Mountain southeast of Little California, but is absent elsewhere in the county.

The Tuscarora Formation is white to light gray, medium- to coarse-grained sandstone and orthoquartzite. In the lower half of the formation are minor beds of quartz-pebble conglomerate.

The Rosehill Formation is dark red to gray, hematitic sandstone bounded above and below by greenish-gray to red shale.

The Keefer Sandstone is white, tan, or light gray sandstone with quartzite in places. It is interbedded with conglomerate and green-mottled and buff siltstone.

These formations as a whole commonly form cliffs and steep side slopes on the middle to upper flanks of all the sandstone mountains. The Juniata Formation, where present, is grouped with the overlying Tuscarora Formation, Rosehill Formation, and Keefer Sandstone in soil mapping. Dekalb, Lehew, and Berks are common residual soils. Oriskany and Laidig soils have formed in younger colluvium. Escatawba soils have formed in old colluvium.

The Cayugan Group, the Helderburg Group, and the Ridgeley Sandstone, as a unit, form interbedded limestones and sandstones. A cherty member of this group is the Licking Creek Limestone. These rocks are abundantly fossiliferous throughout, both in the limestones and sandstones. The Ridgeley (Oriskany) Sandstone is medium- to coarse-grained calcareously cemented sandstone. Within this unit, it is the youngest sandstone component. It is fossiliferous and highly ferruginous in places. Throughout the western part of the county if it is present, it is no more than 20 feet thick. It can be found along Brattons Run, Guys Run, and Goshen Branch and a few other scattered areas. Dekalb, Lily, Lodi, McClung, and Caneyville are common residual soils. Frederick and Watahala soils are mapped to a lesser extent. Oriskany and Murrill are the dominant soils having formed in younger colluvium. Tumbling and Vanella soils have formed in old colluvium.

The Needmore Formation is medium- to light-olive-gray shale and the Millboro Shale is black, fissile shale. The Brallier Formation is composed of green, brown, and gray micaceous shale interbedded with gray thinly bedded sandstone and siltstone.

## Soil Survey of Rockbridge County, Virginia

The Brallier Formation occurs extensively in the valleys and on side slopes in the western part of the county with the Needmore and Millboro Formations being less extensive. Berks, Weikert, and Rough are common residual soils. Oriskany and Laidig soils have formed in younger colluvium. Escatawba soils have formed in old colluvium.

The youngest rocks in the county are the Foreknobs (Chemung) Formation. It is composed of interbedded gray to greenish-gray shale, siltstone, and sandstone. Only the lowest portion of this formation is exposed in the county on the Elliott Knob syncline of Great North Mountain. Berks, Weikert, and Rough are common residual soils.



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# Glossary

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Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the *"National Soil Survey Handbook"* (available in local offices of the Natural Resources Conservation Service or on the Internet).

**ABC soil.** A soil having an A, a B, and a C horizon.

**AC soil.** A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

**Aeration, soil.** The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

**Aggregate, soil.** Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

**Alluvial fan.** A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

**Alluvium.** Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

**Alpha,alpha-dipyridyl.** A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

**Animal unit month (AUM).** The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

**Aquic conditions.** Current soil wetness characterized by saturation, reduction, and redoximorphic features.

**Argillic horizon.** A subsoil horizon characterized by an accumulation of illuvial clay.

**Aspect.** The direction toward which a slope faces. Also called *slope aspect*.

**Available water capacity (available moisture capacity).** The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low .....	0 to 3
Low .....	3 to 6
Moderate.....	6 to 9
High.....	9 to 12
Very high.....	more than 12

**Backslope.** The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

- Backswamp.** A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.
- Basal area.** The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.
- Base saturation.** The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.
- Base slope** (geomorphology). A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).
- Bedding plane.** A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.
- Bedding system.** A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.
- Bedrock.** The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.
- Bedrock-controlled topography.** A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.
- Bench terrace.** A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.
- Bisequum.** Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.
- Bottom land.** An informal term loosely applied to various portions of a flood plain.
- Boulders.** Rock fragments larger than 2 feet (60 centimeters) in diameter.
- Breaks.** A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.
- Breast height.** An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.
- Brush management.** Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.
- Cable yarding.** A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.
- California bearing ratio (CBR).** The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.
- Canopy.** The leafy crown of trees or shrubs. See "Crown."

**Capillary water.** Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

**Catena.** A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

**Cation.** An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

**Cation-exchange capacity.** The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

**Cement rock.** Shaly limestone used in the manufacture of cement.

**Channery soil material.** Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a chanter.

**Chemical treatment.** Control of unwanted vegetation through the use of chemicals.

**Chiseling.** Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

**Clay.** As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

**Clay depletions.** See “Redoximorphic features.”

**Clay film.** A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

**Claypan.** A dense, compact, slowly permeable subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. A claypan is commonly hard when dry and plastic and sticky when wet.

**Climax plant community.** The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

**Concretions.** See “Redoximorphic features.”

**Coarse textured soil.** Sand or loamy sand.

**Cobble (or cobblestone).** A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

**Cobbly soil material.** Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

**COLE (coefficient of linear extensibility).** See “Linear extensibility.”

**Colluvium.** Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

**Complex slope.** Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

**Complex, soil.** A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

**Concretions.** Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

- Conglomerate.** A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.
- Conservation cropping system.** Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.
- Conservation tillage.** A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.
- Consistence, soil.** Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the *"Soil Survey Manual."*
- Contour stripcropping.** Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.
- Control section.** The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.
- Corrosion** (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.
- Corrosion** (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.
- Cover crop.** A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.
- Crop residue management.** Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.
- Cropping system.** Growing crops according to a planned system of rotation and management practices.
- Cross-slope farming.** Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.
- Crown.** The upper part of a tree or shrub, including the living branches and their foliage.
- Crusts, soil.** Relatively thin, somewhat continuous layers of the soil surface that often restrict water movement, air entry, and seedling emergence from the soil. They generally are less than 2 inches thick and are massive.
- Culmination of the mean annual increment (CMAI).** The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.
- Cutbanks cave** (in tables). The walls of excavations tend to cave in or slough.

- Decreasers.** The most heavily grazed climax plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.
- Deferred grazing.** Postponing grazing or resting grazing land for a prescribed period.
- Dense layer** (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.
- Depth, soil.** Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.
- Differential settling.** Uneven settling of earthy material.
- Dip slope.** A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.
- Diversion (or diversion terrace).** A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.
- Divided-slope farming.** A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.
- Drainage class** (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained*. These classes are defined in the “Soil Survey Manual.”
- Drainage, surface.** Runoff, or surface flow of water, from an area.
- Drainageway.** A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.
- Draw.** A small stream valley that generally is shallower and more open than a ravine or gulch and that has a broader bottom. The present stream channel may appear inadequate to have cut the drainageway that it occupies.
- Duff.** A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.
- Earthy fill.** See “Mine spoil.”
- Ecological site.** An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.
- Eluviation.** The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.
- Endosaturation.** A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.
- Ephemeral stream.** A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.



- Episaturation.** A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.
- Erosion.** The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.
- Erosion* (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains.  
Synonym: natural erosion.
- Erosion* (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.
- Erosion pavement.** A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.
- Erosion surface.** A land surface shaped by the action of erosion, especially by running water.
- Escarpment.** A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion.  
Synonym: scarp.
- Extrusive rock.** Igneous rock derived from deep-seated molten matter (magma) deposited and cooled on the earth's surface.
- Fallow.** Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.
- Fan (alluvial).** A generic term for constructional landforms that are built of stratified alluvium with or without debris-flow deposits and that occur on the pediment slope, downslope from their source of alluvium.
- Fan remnant.** A general term for landforms that are the remaining parts of older fan landforms, such as alluvial fans, that have been either dissected or partially buried.
- Fertility, soil.** The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.
- Fibric soil material (peat).** The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.
- Field moisture capacity.** The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity*, *normal moisture capacity*, or *capillary capacity*.
- Fill slope.** A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.
- Fine textured soil.** Sandy clay, silty clay, or clay.
- Firebreak.** An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.
- First bottom.** An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

**Flaggy soil material.** Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

**Flagstone.** A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

**Flooding frequency class.** The number of times flooding occurs over a period of time. The classes of flooding are defined as follows:

*None.*—No reasonable possibility of flooding; near 0 percent chance of flooding in any year or less than 1 time in 500 years.

*Very rare.*—Flooding is very unlikely but possible under extremely unusual weather conditions; less than 1 percent chance of flooding in any year or less than 1 time in 100 years but at least 1 time in 500 years.

*Rare.*—Flooding unlikely but possible under unusual weather conditions; 1 to 5 percent chance of flooding in any year or nearly 1 to 5 times in 100 years.

*Occasional.*—Flooding is expected infrequently under usual weather conditions; 5 to 50 percent chance of flooding in any year or 5 to 50 times in 100 years.

*Frequent.*—Flooding is likely to occur often under usual weather conditions; more than a 50 percent chance of flooding in any year or more than 50 times in 100 years, but less than a 50 percent chance of flooding in all months in any year.

*Very frequent.*—Flooding is likely to occur very often under usual weather conditions; more than a 50 percent chance of flooding in all months of any year.

**Flood plain.** The nearly level plain that borders a stream and is subject to flooding unless protected artificially. Flood plains can be subdivided into low level, low to intermediate level, and high level.

**Flood-plain landforms.** A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

**Flood-plain splay.** A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

**Flood-plain step.** An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

**Fluvial.** Of or pertaining to rivers or streams; produced by stream or river action.

**Foothills.** A region of steeply sloping hills that fringes a mountain range or high-plateau escarpment. The hills have relief of as much as 1,000 feet (300 meters).

**Footslope.** The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

**Forb.** Any herbaceous plant not a grass or a sedge.

**Forest cover.** All trees and other woody plants (underbrush) covering the ground in a forest.

**Forest type.** A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

**Fragipan.** A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

- Genesis, soil.** The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.
- Gleyed soil.** Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.
- Graded stripcropping.** Growing crops in strips that grade toward a protected waterway.
- Grassed waterway.** A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.
- Gravel.** Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.
- Gravelly soil material.** Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.
- Green manure crop** (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.
- Ground water.** Water filling all the unblocked pores of the material below the water table.
- Gully.** A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.
- Hard bedrock.** Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.
- Hard to reclaim** (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.
- Hardpan.** A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.
- Head slope (geomorphology).** A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.
- Hemic soil material (mucky peat).** Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.
- High-residue crops.** Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.
- Hill.** A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.
- Hillslope.** A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.
- Horizon, soil.** A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the *"Soil Survey Manual."* The major horizons of mineral soil are as follows:

*O horizon.*—An organic layer of fresh and decaying plant residue.

*A horizon.*—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

*E horizon.*—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

*B horizon.*—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

*C horizon.*—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

*Cr horizon.*—Soft, consolidated bedrock beneath the soil.

*R layer.*—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

**Humus.** The well decomposed, more or less stable part of the organic matter in mineral soils.

**Hydrologic soil groups.** Refers to soils grouped according to their runoff potential.

The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

**Igneous rock.** Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

**Illuviation.** The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

**Impervious soil.** A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

**Increasers.** Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

**Infiltration.** The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

**Infiltration capacity.** The maximum rate at which water can infiltrate into a soil under a given set of conditions.

**Infiltration rate.** The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

**Intake rate.** The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net

irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2 .....	very low
0.2 to 0.4 .....	low
0.4 to 0.75 .....	moderately low
0.75 to 1.25 .....	moderate
1.25 to 1.75 .....	moderately high
1.75 to 2.5 .....	high
More than 2.5 .....	very high

**Interfluv.** A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

**Interfluv** (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

**Intermittent stream.** A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

**Iron depletions.** See "Redoximorphic features."

**Irrigation.** Application of water to soils to assist in production of crops. Methods of irrigation are:

*Basin.*—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

*Border.*—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

*Controlled flooding.*—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

*Corrugation.*—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

*Drip (or trickle).*—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

*Furrow.*—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

*Sprinkler.*—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

*Subirrigation.*—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

*Wild flooding.*—Water, released at high points, is allowed to flow onto an area without controlled distribution.

**Karst** (topography). A kind of topography that formed in limestone, gypsum, or other soluble rocks by dissolution and that is characterized by closed depressions, sinkholes, caves, and underground drainage.

**Knoll.** A small, low, rounded hill rising above adjacent landforms.

**K<sub>sat</sub>.** Saturated hydraulic conductivity. See "Permeability."

**Landslide.** A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.



**Large stones** (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

**Leaching.** The removal of soluble material from soil or other material by percolating water.

**Linear extensibility.** Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at  $\frac{1}{3}$ - or  $\frac{1}{10}$ -bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

**Liquid limit.** The moisture content at which the soil passes from a plastic to a liquid state.

**Loam.** Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

**Loess.** Material transported and deposited by wind and consisting dominantly of silt-sized particles.

**Low strength.** The soil is not strong enough to support loads.

**Low-residue crops.** Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

**Major soil components.** The soils or miscellaneous areas of a map unit that are dominant or co-dominant in extent and are used in naming map units.

**Marl.** An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal proportions; formed primarily under freshwater lacustrine conditions but also formed in more saline environments.

**Mass movement.** A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

**Masses.** See "Redoximorphic features."

**Meander belt.** The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

**Meander scar.** A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

**Meander scroll.** One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

**Mechanical treatment.** Use of mechanical equipment for seeding, brush management, and other management practices.

**Medium textured soil.** Very fine sandy loam, loam, silt loam, or silt.

**Metamorphic rock.** Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

**Mine spoil.** An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called *earthy fill*.

**Mineral soil.** Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

**Minimum tillage.** Only the tillage essential to crop production and prevention of soil damage.

**Minor soil components.** Dissimilar soils or miscellaneous areas of a map unit that are minor in extent and are not in the map unit name.



- Miscellaneous area.** A kind of map unit that has little or no natural soil and supports little or no vegetation.
- Moderately coarse textured soil.** Coarse sandy loam, sandy loam, or fine sandy loam.
- Moderately fine textured soil.** Clay loam, sandy clay loam, or silty clay loam.
- Mollic epipedon.** A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.
- Morphology, soil.** The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.
- Mottling, soil.** Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few*, *common*, and *many*; size—*fine*, *medium*, and *coarse*; and contrast—*faint*, *distinct*, and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).
- Mountain.** A generic term for an elevated area of the land surface, rising more than 1,000 feet (300 meters) above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range. Mountains are formed primarily by tectonic activity and/or volcanic action but can also be formed by differential erosion.
- Mudstone.** A blocky or massive, fine grained sedimentary rock in which the proportions of clay and silt are approximately equal. Also, a general term for such material as clay, silt, claystone, siltstone, shale, and argillite and that should be used only when the amounts of clay and silt are not known or cannot be precisely identified.
- Munsell notation.** A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.
- Neutral soil.** A soil having a pH value of 6.6 to 7.3. See “Reaction, soil.”
- Nodules.** See “Redoximorphic features.”
- Nose slope (geomorphology).** A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).
- Nutrient, plant.** Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.
- Organic matter.** Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:
- |                      |                       |
|----------------------|-----------------------|
| Very low .....       | less than 0.5 percent |
| Low .....            | 0.5 to 1.0 percent    |
| Moderately low ..... | 1.0 to 2.0 percent    |
| Moderate .....       | 2.0 to 4.0 percent    |
| High .....           | 4.0 to 8.0 percent    |
| Very high .....      | more than 8.0 percent |
- Paleoterrace.** An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

**Pan.** A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan*, *fragipan*, *claypan*, *plowpan*, and *traffic pan*.

**Parent material.** The unconsolidated organic and mineral material in which soil forms.

**Peat.** Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. See "Fibric soil material."

**Ped.** An individual natural soil aggregate, such as a granule, a prism, or a block.

**Pedisediment.** A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

**Pedon.** The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

**Percolation.** The movement of water through the soil.

**Permeability.** The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "*Soil Survey Manual*." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable .....	less than 0.0015 inch
Very slow .....	0.0015 to 0.06 inch
Slow .....	0.06 to 0.2 inch
Moderately slow .....	0.2 to 0.6 inch
Moderate .....	0.6 inch to 2.0 inches
Moderately rapid .....	2.0 to 6.0 inches
Rapid .....	6.0 to 20 inches
Very rapid .....	more than 20 inches

**pH value.** A numerical designation of acidity and alkalinity in soil. See "Reaction, soil."

**Phase, soil.** A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

**Piping** (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

**Pitting** (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

**Plastic limit.** The moisture content at which a soil changes from semisolid to plastic.

**Plasticity index.** The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

**Plateau** (geomorphology). A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

**Plowpan.** A compacted layer formed in the soil directly below the plowed layer.

**Ponding.** Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

**Poorly graded.** Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

**Pore linings.** See "Redoximorphic features."

**Potential native plant community.** See "Climax plant community."

**Potential rooting depth (effective rooting depth).** Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

**Prescribed burning.** Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

**Productivity, soil.** The capability of a soil for producing a specified plant or sequence of plants under specific management.

**Profile, soil.** A vertical section of the soil extending through all its horizons and into the parent material.

**Proper grazing use.** Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

**Reaction, soil.** A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid.....	less than 3.5
Extremely acid .....	3.5 to 4.4
Very strongly acid.....	4.5 to 5.0
Strongly acid .....	5.1 to 5.5
Moderately acid.....	5.6 to 6.0
Slightly acid .....	6.1 to 6.5
Neutral .....	6.6 to 7.3
Slightly alkaline .....	7.4 to 7.8
Moderately alkaline .....	7.9 to 8.4
Strongly alkaline.....	8.5 to 9.0
Very strongly alkaline .....	9.1 and higher

**Red beds.** Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

**Redoximorphic concentrations.** See "Redoximorphic features."

**Redoximorphic depletions.** See "Redoximorphic features."

**Redoximorphic features.** Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
  - A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
  - B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*

- C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
  - A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*
  - B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

**Reduced matrix.** See “Redoximorphic features.”

**Regolith.** All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

**Relief.** The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

**Residuum (residual soil material).** Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

**Rill.** A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

**Riser.** The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

**Road cut.** A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

**Rock fragments.** Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

**Root zone.** The part of the soil that can be penetrated by plant roots.

**Runoff.** The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

**Sand.** As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

**Sandstone.** Sedimentary rock containing dominantly sand-sized particles.

**Saprolite.** Unconsolidated residual material underlying the soil and grading to hard bedrock below.

**Saturated hydraulic conductivity ( $K_{sat}$ ).** The amount of water that would move vertically through a unit area of saturated soil in unit time under unit hydraulic gradient. Terms describing saturated hydraulic conductivity, measured in inches per hour (micrometers per second), are as follows:

Very low .....	0.0 to 0.001417 (0.0 to 0.01)
Low .....	0.001417 to 0.01417 (0.01 to 0.1)
Moderately low .....	0.01417 to 0.1417 (0.1 to 1.0)
Moderately high .....	0.1417 to 1.417 (1.0 to 10)
High.....	1.417 to 14.7 (10 to 100)
Very high .....	more than 14.7 (more than 100)

- Saturation.** Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.
- Scarification.** The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.
- Sedimentary rock.** A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.
- Sequum.** A sequence consisting of an illuvial horizon and the overlying eluvial horizon. See "Eluviation."
- Series, soil.** A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.
- Shale.** Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.
- Sheet erosion.** The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.
- Shoulder.** The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.
- Shrink-swell** (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.
- Side slope (geomorphology).** A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.
- Silica.** A combination of silicon and oxygen. The mineral form is called quartz.
- Silica-sesquioxide ratio.** The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.
- Silt.** As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.
- Siltstone.** An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.
- Similar soils.** Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.
- Sinkhole.** A closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.
- Site index.** A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

**Slickensides** (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

**Slope.** The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for slopes are as follows:

Nearly level .....	0 to 3 percent
Gently sloping .....	3 to 8 percent
Strongly sloping .....	8 to 15 percent
Moderately steep .....	15 to 35 percent
Steep.....	35 to 55 percent
Very steep .....	55 percent and higher

**Slope alluvium.** Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

**Slow refill** (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

**Soft bedrock.** Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

**Soil.** A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

**Soil separates.** Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand .....	2.0 to 1.0
Coarse sand.....	1.0 to 0.5
Medium sand .....	0.5 to 0.25
Fine sand .....	0.25 to 0.10
Very fine sand .....	0.10 to 0.05
Silt.....	0.05 to 0.002
Clay.....	less than 0.002

**Solum.** The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

**Stone line.** In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

**Stones.** Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

**Stony.** Refers to a soil containing stones in numbers that interfere with or prevent tillage.



- Strath terrace.** A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).
- Stream terrace.** One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.
- Stripcropping.** Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.
- Structure, soil.** The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).
- Stubble mulch.** Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.
- Subsoil.** Technically, the B horizon; roughly, the part of the solum below plow depth.
- Subsoiling.** Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.
- Substratum.** The part of the soil below the solum.
- Subsurface layer.** Any surface soil horizon (A, E, AB, or EB) below the surface layer.
- Summer fallow.** The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.
- Summit.** The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.
- Surface layer.** The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”
- Surface soil.** The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.
- Talus.** Rock fragments of any size or shape (commonly coarse and angular) derived from and lying at the base of a cliff or very steep rock slope. The accumulated mass of such loose broken rock formed chiefly by falling, rolling, or sliding.
- Terrace** (conservation). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.
- Terrace** (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.
- Terracettes.** Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.
- Texture, soil.** The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand*, *loamy sand*, *sandy loam*, *loam*, *silt loam*, *silt*, *sandy clay loam*, *clay loam*,

*silty clay loam, sandy clay, silty clay, and clay.* The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

**Thin layer** (in tables). Otherwise suitable soil material that is too thin for the specified use.

**Tilth, soil.** The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

**Toeslope.** The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

**Topsoil.** The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

**Trace elements.** Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

**Tread.** The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

**Unstable fill** (in tables). There is a risk of caving or sloughing on banks of fill material. Fill material that is subject to differential settling.

**Upland.** An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

**Valley fill.** The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.

**Variation.** Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

**Water bars.** Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

**Weathering.** All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

**Well graded.** Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

**Wilting point (or permanent wilting point).** The moisture content of soil, on an oven-dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

**Windthrow.** The uprooting and tipping over of trees by the wind.



# Tables

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Table 1.—Temperature and Precipitation  
(Recorded in the period 1971–2001 at Glasgow, Virginia.)

Month	Temperature (degrees F)						Precipitation (inches)					
	Average			2 years in 10 will have--			Average			2 years in 10 will have--		
	daily maximum	daily minimum	Average daily	Maximum temp. higher than--	Minimum temp. lower than--	Average number of growing degree days*	Less than--	More than--	Average number of days with 0.10 inch or more	Less than--	More than--	Average number of days with 0.10 inch or more
January--	38.8	19.5	29.1	64	0	16	4.30	1.89	6.55	6	6.9	
February--	50.1	25.0	37.5	80	7	108	3.55	1.75	5.21	6	5.4	
March-----	61.3	36.0	48.7	82	16	306	4.55	2.63	6.24	7	2.7	
April-----	70.9	43.1	57.0	88	25	510	4.10	2.01	5.53	6	0.2	
May-----	76.9	51.0	63.9	90	30	742	4.96	3.19	6.59	8	0.0	
June-----	81.8	57.6	69.7	97	38	891	4.41	1.60	6.25	6	0.0	
July-----	87.2	62.9	75.0	99	51	1,086	4.01	2.37	5.46	7	0.0	
August-----	87.7	62.4	75.0	98	46	1,086	3.48	1.76	4.91	6	0.0	
September--	79.3	55.5	67.4	94	35	822	4.57	1.38	7.20	5	0.0	
October----	63.7	42.8	53.3	80	21	401	3.88	1.25	6.22	5	0.1	
November--	54.4	34.2	44.3	73	11	190	4.25	1.95	6.08	5	0.7	
December--	45.6	24.4	35.0	63	8	48	3.59	1.82	5.21	6	2.7	

Table 1.--Temperature and Precipitation--Continued  
(Recorded in the period 1971-2001 at Glasgow, Virginia.)

Temperature (degrees F)										Precipitation (inches)									
Month	Average		Average		2 years in 10 will have--		Average		2 years in 10 will have--		Average		2 years in 10 will have--		Average				
	daily maximum	daily minimum	daily maximum	daily minimum	Maximum temp. higher than--	Minimum temp. lower than--	growing degree days*	number of	Less than--	More than--	number of days with 0.10 inch or more	Less than--	More than--	number of days with 0.10 inch or more	Less than--	More than--			
Yearly:																			
Average	66.5	42.9	54.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
Extreme	100	-1	---	---	100	-1	---	---	---	---	---	---	---	---	---	---	---		
Total--	---	---	---	---	---	---	6,208	49.65	41.74	57.01	73	18.7							

\* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the



# Soil Survey of Rockbridge County, Virginia

Table 2.—Freeze Dates in Spring and Fall  
(Recorded in the period 1971-2000 at Buchanan, Virginia.)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 12	Apr. 28	May 13
2 years in 10 later than--	Apr. 5	Apr. 23	May 9
5 years in 10 later than--	Mar. 25	Apr. 13	Apr. 30
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 24	Oct. 10	Oct. 1
2 years in 10 earlier than--	Oct. 30	Oct. 15	Oct. 6
5 years in 10 earlier than-	Nov. 9	Oct. 24	Oct. 16

# Soil Survey of Rockbridge County, Virginia

Table 3.—Growing Season

(Recorded in the period 1971-2000 at Buchanan, Virginia.)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	<u>Days</u>	<u>Days</u>	<u>Days</u>
9 years in 10	198	182	152
8 years in 10	208	187	159
5 years in 10	228	197	171
2 years in 10	248	207	184
1 year in 10	259	212	190

Table 4.-Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
1A	Alonzville loam, 0 to 3 percent slopes, rarely flooded-----	396	0.1
2B	Alonzville loam, 3 to 8 percent slopes-----	1,265	0.3
3B	Alonzville-Urban land complex, 3 to 8 percent slopes-----	519	0.1
4C	Berks-Weikert complex, 3 to 15 percent slopes-----	2,338	0.6
5A	Botetourt loam, 0 to 3 percent slopes, rarely flooded-----	843	0.2
6A	Botetourt-Urban land complex, 0 to 3 percent slopes, rarely flooded-----	36	*
7A	Buckton-Weaver complex, 0 to 3 percent slopes, occasionally flooded-----	1,530	0.4
8F	Caneyville-Frederick-Rock outcrop complex, 35 to 55 percent slopes-----	4,406	1.2
9C	Carbo-Opequon complex, 3 to 15 percent slopes, very rocky-----	2,133	0.6
9E	Carbo-Opequon complex, 15 to 35 percent slopes, very rocky-----	8,545	2.3
10F	Carbo-Opequon-Rock outcrop complex, 35 to 70 percent slopes-----	4,480	1.2
11B	Cottonbend loam, 3 to 8 percent slopes-----	1,415	0.4
11C	Cottonbend loam, 8 to 15 percent slopes-----	474	0.1
12A	Coursey loam, 0 to 3 percent slopes, rarely flooded-----	552	0.1
13B	Coursey loam, 3 to 8 percent slopes-----	1,304	0.4
14C	Dekalb, Lelew, and Berks soils, 3 to 15 percent slopes, very stony-----	231	*
14E	Dekalb, Lelew, and Berks soils, 15 to 35 percent slopes, very stony-----	1,787	0.5
14F	Dekalb, Lelew, and Berks soils, 35 to 70 percent slopes, very stony-----	6,650	1.8
15E	Dekalb-Lelew-Rock outcrop complex, 15 to 35 percent slopes, extremely stony-----	1,841	0.5
15F	Dekalb-Lelew-Rock outcrop complex, 35 to 80 percent slopes, extremely stony-----	10,600	2.9
16C	Dekalb-Lily complex, 3 to 15 percent slopes, very stony-----	450	0.1
16E	Dekalb-Lily complex, 15 to 35 percent slopes, very stony-----	1,744	0.5
17F	Dekalb-Lily complex, 35 to 55 percent slopes, very stony-----	1,474	0.4
18A	Derroc very cobbly sandy loam, 0 to 3 percent slopes, frequently flooded-----	1,448	0.4
19C	Edneytown loam, 8 to 15 percent slopes-----	41	*
19D	Edneytown loam, 15 to 25 percent slopes-----	88	*
20C	Edneytown-Peaks complex, 3 to 15 percent slopes, very stony-----	313	*
20E	Edneytown-Peaks complex, 15 to 35 percent slopes, very stony-----	1,933	0.5
20F	Edneytown-Peaks complex, 35 to 70 percent slopes, very stony-----	3,596	1.0
21B	Escatawba loam, 3 to 8 percent slopes-----	1,717	0.5

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acre	Percent
21C	Escatawba loam, 8 to 15 percent slopes-----	3,456	0.9
22B	Frederick silt loam, 3 to 8 percent slopes-----	2,556	0.7
22C	Frederick silt loam, 8 to 15 percent slopes-----	20,298	5.5
22D	Frederick silt loam, 15 to 25 percent slopes-----	14,078	3.8
23E	Frederick-Caneyville complex, 25 to 35 percent slopes-----	3,302	0.9
24C	Frederick-Caneyville complex, 3 to 15 percent slopes-----	3,731	1.0
24E	Frederick-Caneyville complex, 15 to 35 percent slopes, very rocky-----	15,561	4.2
25C	Frederick-Watahala complex, 8 to 15 percent slopes-----	9,533	2.6
25D	Frederick-Watahala complex, 15 to 25 percent slopes-----	17,800	4.8
25E	Frederick-Watahala complex, 25 to 35 percent slopes-----	10,201	2.8
26A	Gladehill fine sandy loam, 0 to 3 percent slopes, occasionally flooded-----	1,508	0.4
27B	Groseclose silt loam, 3 to 8 percent slopes-----	626	0.2
27C	Groseclose silt loam, 8 to 15 percent slopes-----	3,907	1.1
27D	Groseclose silt loam, 15 to 25 percent slopes-----	4,550	1.2
28E	Groseclose-Needmore complex, 25 to 35 percent slopes-----	2,058	0.6
29C	Groseclose-Needmore-Urban land complex, 0 to 15 percent slopes-----	1,248	0.3
30A	Holly-Orrville complex, 0 to 3 percent slopes, occasionally flooded-----	582	0.2
31A	Inglodove loam, 0 to 3 percent slopes, rarely flooded-----	1,581	0.4
32A	Irongate fine sandy loam, 0 to 3 percent slopes, occasionally flooded-----	205	*
33C	Litz-Chiswell-Groseclose complex, 8 to 15 percent slopes-----	653	0.2
33E	Litz-Chiswell-Groseclose complex, 15 to 35 percent slopes-----	2,019	0.5
33F	Litz-Chiswell-Groseclose complex, 35 to 55 percent slopes-----	2,551	0.7
34C	Litz-Needmore complex, 3 to 15 percent slopes, very stony-----	37	*
34E	Litz-Needmore complex, 15 to 35 percent slopes, very stony-----	2,891	0.8
34F	Litz-Needmore complex, 35 to 70 percent slopes, very stony-----	5,258	1.4
35C	Lodi-McClung-Lily complex, 8 to 15 percent slopes-----	618	0.2
35E	Lodi-McClung-Lily complex, 15 to 35 percent slopes-----	1,906	0.5
36C	Lostcove very cobbly sandy loam, 3 to 15 percent slopes, extremely stony-----	975	0.3
37E	Lostcove very cobbly sandy loam, 15 to 35 percent slopes, very stony-----	2,079	0.6
37F	Lostcove very cobbly sandy loam, 35 to 55 percent slopes, very stony-----	2,727	0.7
38E	Marbleyard-Rock outcrop complex, 15 to 35 percent slopes, extremely stony-----	140	*

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acre	Percent
39F	Marbleyard-Sherando-Rock outcrop complex, 35 to 55 percent slopes, extremely stony-----	1,785	0.5
39G	Marbleyard-Sherando-Rock outcrop complex, 55 to 80 percent slopes, extremely stony-----	6,274	1.7
40A	Maurertown-Toms complex, 0 to 3 percent slopes, rarely flooded-----	1,224	0.3
41C	McCamy loam, 3 to 15 percent slopes, very stony-----	100	*
42F	McClung-Caneyville-Dekalb complex, 35 to 55 percent slopes, very stony-----	726	0.2
43C	Needmore-Opequon complex, 3 to 15 percent slopes-----	2,984	0.8
43E	Needmore-Opequon complex, 15 to 35 percent slopes-----	8,826	2.4
43F	Needmore-Opequon complex, 35 to 70 percent slopes-----	9,232	2.5
44E	Needmore-Urban land complex, 15 to 35 percent slopes-----	285	*
45B	Nicelytown loam, 3 to 8 percent slopes-----	1,477	0.4
46B	Nicelytown-Urban land complex, 3 to 8 percent slopes-----	132	*
47C	Oriskany-Laidig complex, 3 to 15 percent slopes, extremely stony-----	3,062	0.8
47E	Oriskany-Laidig complex, 15 to 35 percent slopes, extremely stony-----	7,084	1.9
48F	Oriskany cobbly sandy loam, 35 to 55 percent slopes, extremely stony-----	5,283	1.4
49C	Oriskany-Murrill complex, 3 to 15 percent slopes, extremely stony-----	4,403	1.2
49E	Oriskany-Murrill complex, 15 to 35 percent slopes, extremely stony-----	8,491	2.3
49F	Oriskany-Murrill complex, 35 to 55 percent slopes, extremely stony-----	5,308	1.4
50E	Peaks-Edneytown complex, 15 to 35 percent slopes, very rocky-----	292	*
50F	Peaks-Edneytown complex, 35 to 70 percent slopes, very rocky-----	4,081	1.1
51A	Philo fine sandy loam, 0 to 3 percent slopes, occasionally flooded-----	524	0.1
52C	Pignut-Myersville complex, 3 to 15 percent slopes, very stony-----	118	*
53E	Pignut silt loam, 15 to 35 percent slopes, very stony-----	324	*
53F	Pignut silt loam, 35 to 70 percent slopes, very stony-----	464	0.1
54	Pits and Dumps-----	926	0.3
55A	Pope fine sandy loam, 0 to 3 percent slopes, occasionally flooded-----	1,022	0.3
56G	Rock outcrop-Opequon complex, 55 to 100 percent slopes-----	1,720	0.5
57A	Sensabaugh-Lobdell-Derroc complex, 0 to 3 percent slopes, occasionally flooded-----	2,121	0.6
58B	Shottower fine sandy loam, 3 to 8 percent slopes-----	2,000	0.5
58C	Shottower fine sandy loam, 8 to 15 percent slopes-----	4,777	1.3

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
58D	Shottower fine sandy loam, 15 to 25 percent slopes-----	2,662	0.7
59E	Shottower cobbly fine sandy loam, 25 to 35 percent slopes-----	1,589	0.4
60C	Shottower-Urban land complex, 3 to 15 percent slopes-----	376	0.1
61B	Slabtown silt loam, 0 to 8 percent slopes-----	3,534	1.0
61C	Slabtown silt loam, 8 to 15 percent slopes-----	400	0.1
62	Slickens-----	81	*
63E	Stumptown-Marbleyard-Rock outcrop complex, 15 to 35 percent slopes, extremely stony-----	342	*
63F	Stumptown-Marbleyard-Rock outcrop complex, 35 to 55 percent slopes, extremely stony-----	1,871	0.5
63G	Stumptown-Marbleyard-Rock outcrop complex, 55 to 80 percent slopes, extremely stony-----	3,727	1.0
64E	Stumptown-Sylco complex, 15 to 35 percent slopes, very stony-----	290	*
64F	Stumptown-Sylco complex, 35 to 55 percent slopes, very stony-----	1,904	0.5
65E	Sylco-Marbleyard complex, 15 to 35 percent slopes, very rocky-----	248	*
65F	Sylco-Marbleyard complex, 35 to 55 percent slopes, very rocky-----	1,450	0.4
65G	Sylco-Marbleyard complex, 55 to 80 percent slopes, very rocky-----	5,428	1.5
66C	Thunder-Saunook complex, 3 to 15 percent slopes, very bouldery-----	1,204	0.3
66E	Thunder-Saunook complex, 15 to 35 percent slopes, very bouldery-----	1,702	0.5
66F	Thunder-Saunook complex, 35 to 55 percent slopes, very bouldery-----	1,622	0.4
67C	Tumbling-Vanella complex, 8 to 15 percent slopes-----	3,137	0.9
67D	Tumbling-Vanella complex, 15 to 25 percent slopes-----	1,731	0.5
67E	Tumbling-Vanella complex, 25 to 35 percent slopes-----	1,258	0.3
68D	Tumbling-Vanella-Urban land complex, 8 to 25 percent slopes-----	366	*
69A	Tygart-Purdy complex, 0 to 3 percent slopes-----	507	0.1
70	Udortheints, refuse substratum-----	116	*
71	Udortheints, smoothed-Urban land complex-----	3,543	1.0
72C	Unaka-Plott complex, 3 to 15 percent slopes, very stony-----	130	*
72E	Unaka-Plott complex, 15 to 35 percent slopes, very stony-----	105	*
73C	Vanella-Tumbling complex, 3 to 15 percent slopes, very stony-----	2,207	0.6
73E	Vanella-Tumbling complex, 15 to 35 percent slopes, very stony-----	9,651	2.6

See footnote at end of table.



Table 4.-Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acrea	Percent
74C	Watahala-Frederick complex, 8 to 15 percent slopes, very stony-----	1,285	0.3
74E	Watahala-Frederick complex, 15 to 35 percent slopes, very stony-----	10,408	2.8
74F	Watahala-Frederick complex, 35 to 55 percent slopes, very stony-----	2,478	0.7
75E	Weikert-Berks-Rough complex, 15 to 35 percent slopes-----	5,419	1.5
75F	Weikert-Berks-Rough complex, 35 to 70 percent slopes-----	5,370	1.5
76G	Weikert-Rough-Rock outcrop complex, 70 to 100 percent slopes-----	522	0.1
77C	Wintergreen loam, 8 to 15 percent slopes-----	221	*
77D	Wintergreen loam, 15 to 25 percent slopes-----	137	*
77E	Wintergreen loam, 25 to 35 percent slopes-----	80	*
78E	Wintergreen loam, 15 to 35 percent slopes, very stony-----	199	*
79A	Wolfgap loam, 0 to 3 percent slopes, rarely flooded-----	444	0.1
80A	Wolfgap-Derroc-Urban land complex, 0 to 3 percent slopes, rarely flooded-----	722	0.2
W	Water-----	2,323	0.6
	Total-----	368,618	100.0

\* Less than 0.1 percent.

Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil.)

Map symbol and soil name	Land capability	Virginia soil management group	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
1A: Alonzville, rarely flooded----	1	L	130	21.0	4.0	7.5
2B: Alonzville-----	2e	L	130	21.0	4.0	7.5
3B: Alonzville-----	2e	L	130	21.0	4.0	7.5
Urban land-----	8					
4C: Berks-----	3e	JJ	57	13.0	2.6	3.5
Weikert-----	4s	JJ	40	12.0	1.8	2.5
5A: Botetourt-----	2w	G	140	21.0	4.5	9.0
6A: Botetourt-----	2w	G	140	21.0	4.5	9.0
Urban land-----	8					

See footnote at end of table.

Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
7A: Buckton-----	1	A	6.0	160	23.0	4.5	9.0
Weaver-----	2w	G		140	21.0	4.5	9.0
8F: Caneyville-----	7s	Y					
Frederick-----	7s	M					
Rock outcrop-----	8						
9C: Carbo, very rocky-----	6s	Y					3.3
Opequon, very rocky-----	6s	JJ					2.6
9E: Carbo, very rocky-----	6s	Y					3.0
Opequon, very rocky-----	6s	JJ					2.4
10F: Carbo-----	7s	Y					

See footnote at end of table.

Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
10F: Opequon-----	7s	JJ					
Rock outcrop-----	8						
11B: Cottonbend-----	2e	L	5.5	130	21.0	4.0	7.5
11C: Cottonbend-----	3e	L	4.8	114	19.0	3.5	6.6
12A: Coursey, rarely flooded-----	2w	G	5.5	140	21.0	4.5	9.0
13B: Coursey-----	2e	G	5.5	140	21.0	4.5	9.0
14C: Dekalb, very stony-----	6s	FF					2.0
Lehew, very stony-----	6s	JJ					2.0
Berks, very stony-----	6s	JJ					2.6

See footnote at end of table.

Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
14E: Dekalb, very stony-----	7s	FF					
Lehew, very stony-----	7s	JJ					
Berks, very stony-----	7s	JJ					
14F: Dekalb, very stony-----	7e	FF					
Lehew, very stony-----	7e	JJ					
Berks, very stony-----	7e	JJ					
15E: Dekalb, extremely stony-----	7s	FF					
Lehew, extremely stony-----	7s	JJ					
Rock outcrop-----	8						

See footnote at end of table.

Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
15F: Dekalb, extremely stony-----							
Lehew, extremely stony-----	7s 7s	JJ JJ					
Rock outcrop-----	8						
16C: Dekalb, very stony-----	6s	FF					3.0
Lily, very stony-----	6s	U					4.8
16E: Dekalb, very stony-----	7s	FF					
Lily, very stony-----	7s	U					
17F: Dekalb, very stony-----	7e	FF					
Lily, very stony-----	7e	U					

See footnote at end of table.



Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
18A: Derroc-----	4s	CC		60	14.0	2.4	3.5
19C: Edneytown-----	3e	L	4.8	114	19.0	3.5	6.6
19D: Edneytown-----	4e	L	4.4	104	18.0	3.2	6.0
20C: Edneytown, very stony-----	6s	L					5.0
Peaks, very stony-----	6s	JJ					2.6
20E: Edneytown, very stony-----	7s	L					
Peaks, very stony-----	7s	JJ					
20F: Edneytown, very stony-----	7e	L					
Peaks, very stony-----	7e	JJ					

See footnote at end of table.

Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
21B: Escatawba-----	2e	L	5.5	130	21.0	4.0	7.5
21C: Escatawba-----	3e	L	4.8	114	19.0	3.5	6.6
22B: Frederick-----	2e	M	6.0	130	21.0	4.0	7.5
22C: Frederick-----	3e	M	5.3	114	19.0	3.5	6.6
22D: Frederick-----	4e	M	4.8	104	18.0	3.2	6.0
23E: Frederick-----	6e	M					5.5
Caneyville-----	6e	Y					4.0
24C: Frederick, very rocky-----	6s	M					5.0
Caneyville, very rocky-----	6s	Y					3.3

See footnote at end of table.

Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
24E: Frederick, very rocky-----	6s	M					4.2
Caneyville, very rocky-----	6s	Y					3.0
25C: Frederick-----	3e	M	4.8	103	18.0	3.2	6.0
Watahala-----	3e	M	4.8	103	18.0	3.2	6.0
25D: Frederick-----	4e	M	4.3	94	17.0	2.9	5.5
Watahala-----	4e	M	4.3	94	17.0	2.9	5.5
25E: Frederick-----	6e	M					5.0
Watahala-----	6e	M					5.0
26A: Gladehill-----	1	A	5.7	145	22.0	4.3	8.0
27B: Groseclose-----	2e	M	6.0	130	21.0	4.0	7.5

See footnote at end of table.

Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
27C: Groseclose-----	3e	M	5.3	115	19.0	3.5	6.6
27D: Groseclose-----	4e	M	4.8	104	18.0	3.2	6.0
28E: Groseclose-----	6e	M					5.5
Needmore-----	6e	Y					4.0
29C: Groseclose-----	3e	M	5.3	115	19.0	3.5	6.6
Needmore-----	3e	Y		88	16.0	3.1	4.4
Urban land-----	8						
30A: Holly-----	4w	NN		65	14.0		3.0
Orrville-----	4w	HH		80	15.0	2.4	3.5
31A: Ingledove-----	1	A	6.0	160	23.0	4.5	9.0
32A: Irongate-----	2w	G		140	21.0	4.5	9.0

See footnote at end of table.

Table 5.--Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>ADM</u>
33C: Litz-----	3e	JJ		57	13.0	2.6	3.5
Chiswell-----	4s	JJ		40	12.0	1.8	2.5
Groseclose-----	3e	M	5.3	115	19.0	3.5	6.6
33E: Litz-----	6e	JJ					3.2
Chiswell-----	6e	JJ					2.2
Groseclose-----	6e	M					6.0
33F: Litz-----	7e	JJ					
Chiswell-----	7e	JJ					
Groseclose-----	7e	M					
34C: Litz, very stony-----	6s	JJ					2.6
Needmore, very stony-----	6s	Y					3.3

See footnote at end of table.

Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
34E: Litz, very stony-----	7s	JJ					
Needmore, very stony-----	7s	Y					
34F: Litz, very stony-----	7e	JJ					
Needmore, very stony-----	7e	Y					
35C: Lodi-----	3e	M	4.8	103	18.0	3.2	6.0
McClung-----	3e	M	5.0	110	19.0	3.4	6.2
Lily-----	3e	U		95	17.0	3.0	5.0
35E: Lodi-----	6e	M					5.0
McClung-----	6e	M					5.2
Lily-----	6e	U					4.5

See footnote at end of table.



Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
36C: Lostcove, extremely stony-----	7s	FF					
37E: Lostcove, very stony-----	7s	FF					
37F: Lostcove, very stony-----	7e	FF					
38E: Marbleyard, extremely stony-----	7s	FF					
Rock outcrop-----	8						
39F: Marbleyard, extremely stony-----	7s	FF					
Sherando, extremely stony-----	7s	CC					

See footnote at end of table.

Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
39F: Rock outcrop-----	8						
39G: Marbleyard, extremely stony-----	7s	FF					
Sherando, extremely stony-----	7s	CC					
Rock outcrop-----	8						
40A: Maurertown-----	4w	NN		65	14.0		3.0
Toms-----	4w	NN		70	14.5		3.5
41C: McCamy, very stony-----	6s	FF					3.3
42F: McClung, very stony-----	7e	M					
Caneyville, very stony-----	7e	Y					

See footnote at end of table.

Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>ADM</u>
42F: Dekalb, very stony-----	7e	FF					
43C: Needmore-----	3e	Y		88	16.0	3.1	4.4
Opequon-----	4s	JJ		57	13.0	2.4	3.5
43E: Needmore-----	6e	Y					4.0
Opequon-----	6e	JJ					3.2
43F: Needmore-----	7e	Y					
Opequon-----	7e	JJ					
44E: Needmore-----	6e	Y					4.0
Urban land-----	8						
45B: Nicelytown-----	2e	G	5.5	140	21.0	4.5	9.0
46B: Nicelytown-----	2e	G	5.5	140	21.0	4.5	9.0

See footnote at end of table.

Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
46B: Urban land-----	8						
47C: Oriskany, extremely stony-----	7s	CC					
Laidig, extremely stony-----	7s	W					
47E: Oriskany, extremely stony-----	7s	CC					
Laidig, extremely stony-----	7s	W					
48F: Oriskany, extremely stony-----	7e	CC					
49C: Oriskany, extremely stony-----	7s	CC					

See footnote at end of table.

Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
49C: Murrill, extremely stony-----	7s	L					
49E: Oriskany, extremely stony-----	7s	CC					
Murrill, extremely stony-----	7s	L					
49F: Oriskany, extremely stony-----	7e	CC					
Murrill, extremely stony-----	7e	L					
50E: Peaks, very rocky-----	6s	JJ					2.4

See footnote at end of table.

Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
50E: Edneytown, very rocky-----	6s	L					4.5
50F: Peaks, very rocky-----	7e	JJ					
Edneytown, very rocky-----	7e	L					
51A: Philo-----	2w	H		140	21.0	3.0	4.0
52C: Pignut, very Stony-----	6s	JJ					2.5
Myersville, very stony-----	6s	D					6.5
53E: Pignut, very stony-----	7s	JJ					
53F: Pignut, very stony-----	7e	JJ					

See footnote at end of table.



Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
54: Pits-----	8						
Dumps-----	8						
55A: Pope-----	1	A	5.7	145	22.0	4.3	8.0
56G: Rock outcrop-----	8						
Opequon-----	7s	JJ					
57A: Sensabaugh-----	1	A	6.0	160	23.0	4.5	9.0
Lobdell-----	2w	HH		85	16.0	3.0	4.0
Derroc-----	4s	CC		60	14.0	2.4	3.5
58B: Shottower-----	2e	O	5.5	130	21.0	4.0	7.5
58C: Shottower-----	3e	O	4.8	114	19.0	3.5	6.6
58D: Shottower-----	4e	O	4.4	104	18.0	3.2	6.0

See footnote at end of table.

Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
59E: Shottower-----	7s	O					
60C: Shottower-----	3e	O	4.8	114	19.0	3.5	6.6
Urban land-----	8						
61B: Slabtown-----	2e	G	5.5	140	21.0	4.5	9.0
61C: Slabtown-----	3e	G	5.0	125	20.0	4.0	8.5
62: Slickens-----	8						
63E: Stumptown, extremely stony-----	7s	FF					
Marbleyard, extremely stony-----	7s	FF					
Rock outcrop-----	8						

See footnote at end of table.

Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
63F: Stumptown, extremely stony-----	7s	FF					
Marbleyard, extremely stony-----	7s	FF					
Rock outcrop----	8						
63G: Stumptown, extremely stony-----	7s	FF					
Marbleyard, extremely stony-----	7s	FF					
Rock outcrop----	8						
64E: Stumptown, very stony-----	7s	FF					
Sylco, very stony-----	7s	JJ					

See footnote at end of table.

Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
64F: Stumptown, very stony-----	7e	FF					
Sylco, very stony-----	7e	JJ					
65E: Sylco, very rocky-----	6s	JJ					2.4
Marbleyard, very rocky-----	6s	FF					2.0
65F: Sylco, very rocky-----	7e	JJ					
Marbleyard, very rocky-----	7e	FF					
65G: Sylco, very rocky-----	7e	JJ					
Marbleyard, very rocky-----	7e	FF					

See footnote at end of table.

Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
66C: Thunder, very bouldery-----	7s	GG					
Saunook, very bouldery-----	7s	L					
66E: Thunder, very bouldery-----	7s	GG					
Saunook, very bouldery-----	7s	L					
66F: Thunder, very bouldery-----	7e	GG					
Saunook, very bouldery-----	7e	L					
67C: Tumbling-----	3e	O	4.8	114	19.0	3.5	6.5
Vanella-----	3e	L	4.8	114	19.0	3.5	6.5
67D: Tumbling-----	4e	O	4.4	104	18.0	3.2	6.0

See footnote at end of table.

Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>ADM</u>
67D: Vanella-----	4e	L	4.4	104	18.0	3.2	6.0
67E: Tumblng-----	6e	O					5.5
Vanella-----	6e	L					5.5
68D: Tumblng-----	4e	O	4.4	104	18.0	3.2	6.0
Vanella-----	4e	L	4.4	104	18.0	3.2	6.0
Urban land-----	8						
69A: Tygart-----	4w	Z		100	17.0		3.5
Purdy-----	4w	NN		65	14.0		3.0
70. Udorthents, refuse substratum.							
71. Udorthents.							
Urban land-----	8						

See footnote at end of table.



Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
72C: Unaka, very stony-----	6s	U					5.6
Plott, very stony-----	6s	U					5.8
72E: Unaka, very stony-----	7s	U					
Plott, very stony-----	7s	U					
73C: Vanella, very stony-----	6s	L					5.0
Tumbling, very stony-----	6s	O					5.0
73E: Vanella, very stony-----	7s	L					
Tumbling, very stony-----	7s	O					

See footnote at end of table.

Table 5.--Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
74C: Watahala, very stony-----	6s	M					4.5
Frederick, very stony-----	6s	M					4.5
74E: Watahala, very stony-----	7s	M					
Frederick, very stony-----	7s	M					
74F: Watahala, very stony-----	7e	M					
Frederick, very stony-----	7e	M					
75E: Weikert-----	6e	JJ					2.2
Berks-----	6e	JJ					3.2
Rough-----	6e	JJ					1.0

See footnote at end of table.

Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
75F: Weikert-----	7e	JJ					
Berks-----	7e	JJ					
Rough-----	7e	JJ					
76G: Weikert-----	7s	JJ					
Rough-----	7s	JJ					
Rock outcrop-----	8						
77C: Wintergreen-----	3e	O	4.8	114	19.0	3.5	6.6
77D: Wintergreen-----	4e	O	4.4	104	18.0	3.2	6.0
77E: Wintergreen-----	6e	O					5.5
78E: Wintergreen, very stony-----	7s	O					
79A: Wolfgap-----	1	A	6.0	160	23.0	4.5	9.0

See footnote at end of table.

Table 5.-Land Capability Class, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Virginia soil management group	Alfalfa hay	Corn	Corn silage*	Grass- legume hay	Pasture
			<u>Tons</u>	<u>Bu</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>
80A: Wolfgap-----	1	A	6.0	160	23.0	4.5	9.0
Derroc-----	4s	CC		60	14.0	2.4	3.5
Urban land-----	8						
W. Water.							

\* Corn silage yields are estimated from corn grain yields.

Table 6.-Prime and Other Important Farmland

(Only the soils considered prime or other important farmland are listed. Urban or built-up areas of the soils listed are not considered prime or important farmland. If a soil is prime or important farmland only under certain conditions, the conditions are specified in the "Farmland classification" column.)

Map symbol	Map unit name	Farmland classification
1A	Alonzville loam, 0 to 3 percent slopes, rarely flooded	All areas are prime farmland
2B	Alonzville loam, 3 to 8 percent slopes	All areas are prime farmland
5A	Botetourt loam, 0 to 3 percent slopes, rarely flooded	All areas are prime farmland
7A	Buckton-Weaver complex, 0 to 3 percent slopes, occasionally flooded	All areas are prime farmland
11B	Cottonbend loam, 3 to 8 percent slopes	All areas are prime farmland
12A	Coursey loam, 0 to 3 percent slopes, rarely flooded	All areas are prime farmland
13B	Coursey loam, 3 to 8 percent slopes	All areas are prime farmland
21B	Escatawba loam, 3 to 8 percent slopes	All areas are prime farmland
22B	Frederick silt loam, 3 to 8 percent slopes	All areas are prime farmland
26A	Gladehill fine sandy loam, 0 to 3 percent slopes, occasionally flooded	All areas are prime farmland
27B	Groseclose silt loam, 3 to 8 percent slopes	All areas are prime farmland
31A	Ingledove loam, 0 to 3 percent slopes, rarely flooded	All areas are prime farmland
32A	Irongate fine sandy loam, 0 to 3 percent slopes, occasionally flooded	All areas are prime farmland
45B	Nicelytown loam, 3 to 8 percent slopes	All areas are prime farmland
51A	Philo fine sandy loam, 0 to 3 percent slopes, occasionally flooded	All areas are prime farmland
55A	Pope fine sandy loam, 0 to 3 percent slopes, occasionally flooded	All areas are prime farmland
57A	Sensabaugh-Lobdell-Derroc complex, 0 to 3 percent slopes, occasionally flooded	All areas are prime farmland
58B	Shottower fine sandy loam, 3 to 8 percent slopes	All areas are prime farmland
61B	Slabtown silt loam, 0 to 8 percent slopes	All areas are prime farmland
79A	Wolfigap loam, 0 to 3 percent slopes, rarely flooded	All areas are prime farmland

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste	Value	Application of sewage sludge	Value
		Rating class and limiting features		Rating class and limiting features	
1A: Alonzville, rarely flooded-----	80	Somewhat limited Too acid	0.37	Somewhat limited Too acid Flooding	0.96 0.40
2B: Alonzville-----	80	Somewhat limited Too acid	0.37	Somewhat limited Too acid	0.96
3B: Alonzville-----	50	Somewhat limited Too acid	0.37	Somewhat limited Too acid	0.96
Urban land-----	45	Not rated		Not rated	
4C: Berks-----	50	Somewhat limited Droughty Too acid Depth to bedrock Slope	0.77 0.62 0.46 0.37	Very limited Too acid Slope Droughty Depth to bedrock	1.00 0.37 0.77 0.46
Weikert-----	40	Very limited Depth to bedrock Droughty Slope Too acid Runoff	1.00 1.00 0.37 0.62 0.40	Very limited Depth to bedrock Droughty Too acid Slope	1.00 1.00 1.00 0.37
5A: Botetourt-----	90	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.40
6A: Botetourt-----	50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.40
Urban land-----	45	Not rated		Not rated	
7A: Buckton-----	55	Somewhat limited Flooding	0.60	Very limited Flooding	1.00
Weaver-----	30	Very limited Depth to saturated zone Flooding	1.00 0.60	Very limited Depth to saturated zone Flooding	1.00 1.00



# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
8F:					
Caneyville-----	60	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.94	Droughty	0.94
		Depth to bedrock	0.84	Depth to bedrock	0.84
		Slow water movement	0.50	Too acid	0.07
		Too acid	0.02	Slow water movement	0.37
Frederick-----	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.11	Too acid	0.42
Rock outcrop-----	15	Not rated		Not rated	
9C:					
Carbo, very rocky---	55	Very limited		Very limited	
		Slow water movement	1.00	Droughty	1.00
		Droughty	1.00	Slow water movement	1.00
		Depth to bedrock	0.84	Depth to bedrock	0.84
		Runoff	0.40	Slope	0.04
		Slope	0.04		
Opequon, very rocky-----	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Droughty	1.00
		Slope	0.04	Slope	0.04
9E:					
Carbo, very rocky---	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00	Droughty	1.00
		Droughty	1.00	Slow water movement	1.00
		Depth to bedrock	0.84	Depth to bedrock	0.84
		Runoff	0.40		
Opequon, very rocky-----	35	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Droughty	1.00
		Droughty	1.00	Slope	1.00
10F:					
Carbo-----	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00	Droughty	1.00
		Droughty	1.00	Slow water movement	1.00
		Depth to bedrock	0.84	Depth to bedrock	0.84
		Runoff	0.40		
Opequon-----	25	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Droughty	1.00
		Droughty	1.00	Slope	1.00
Rock outcrop-----	15	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
11B: Cottonbend-----	85	Somewhat limited Too acid	0.02	Somewhat limited Too acid	0.07
11C: Cottonbend-----	85	Somewhat limited Slope Too acid	0.37 0.02	Somewhat limited Slope Too acid	0.37 0.07
12A: Coursey, rarely flooded-----	80	Very limited Depth to saturated zone Too acid	1.00 0.37	Very limited Depth to saturated zone Too acid Flooding	1.00 0.96 0.40
13B: Coursey-----	80	Very limited Depth to saturated zone Too acid	1.00 0.37	Very limited Depth to saturated zone Too acid	1.00 0.96
14C: DeKalb, very stony-----	50	Very limited Filtering capacity Droughty Large stones Too acid Depth to bedrock	1.00 1.00 0.76 0.73 0.29	Very limited Filtering capacity Too acid Droughty Depth to bedrock Slope	1.00 1.00 1.00 0.29 0.04
Lehew, very stony---	20	Very limited Cobble content Droughty Large stones Too acid Slope	1.00 0.97 0.76 0.73 0.04	Very limited Cobble content Too acid Droughty Slope Depth to bedrock	1.00 1.00 0.97 0.04 0.03
Berks, very stony---	15	Somewhat limited Droughty Large stones Depth to bedrock Slope Too acid	0.77 0.76 0.46 0.04 0.62	Very limited Too acid Droughty Depth to bedrock Slope	1.00 0.77 0.46 0.04
14E: DeKalb, very stony-----	50	Very limited Slope Filtering capapcity Droughty Large stones Too acid	1.00 1.00 1.00 0.76 0.73	Very limited Filtering capacity Slope Too acid Droughty Depth to bedrock	1.00 1.00 1.00 1.00 0.29

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
14E: Lehew, very stony---	20	Very limited Slope Cobble content Droughty Large stones Too acid	 1.00 1.00 0.97 0.76 0.73	Very limited Slope Cobble content Too acid Droughty Depth to bedrock	 1.00 1.00 1.00 0.97 0.03
Berks, very stony---	15	Very limited Slope Droughty Large stones Depth to bedrock Too acid	 1.00 0.77 0.76 0.46 0.62	Very limited Slope Too acid Droughty Depth to bedrock	 1.00 1.00 0.77 0.46
14F: DeKalb, very stony-----	50	Very limited Slope Filtering capacity Droughty Large stones Too acid	 1.00 1.00  1.00 0.76 0.73	Very limited Filtering capacity Slope Too acid Droughty Depth to bedrock	 1.00  1.00 1.00 1.00 0.29
Lehew, very stony---	20	Very limited Slope Cobble content Droughty Large stones Too acid	 1.00 1.00 0.97 0.76 0.73	Very limited Slope Cobble content Too acid Droughty Depth to bedrock	 1.00 1.00 1.00 0.97 0.03
Berks, very stony---	15	Very limited Slope Droughty Large stones Depth to bedrock Too acid	 1.00 0.77 0.76 0.46 0.62	Very limited Slope Too acid Droughty Depth to bedrock	 1.00 1.00 0.77 0.46
15E: DeKalb, extremely stony-----	50	Very limited Slope Filtering capacity Large stones Droughty Too acid	 1.00 1.00  1.00 1.00 0.73	Very limited Filtering capacity Slope Too acid Droughty Depth to bedrock	 1.00  1.00 1.00 1.00 0.29
Lehew, extremely stony-----	30	Very limited Slope Large stones Cobble content Droughty Too acid	 1.00 1.00 1.00 0.97 0.73	Very limited Slope Cobble content Too acid Droughty Depth to bedrock	 1.00 1.00 1.00 0.97 0.03
Rock outcrop-----	15	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
15F: Dekalb, extremely stony-----	50	Very limited Slope Filtering capacity Large stones Droughty Too acid	 1.00 1.00  1.00 1.00 0.73	Very limited Filtering capacity Slope Too acid Droughty Depth to bedrock	 1.00  1.00 1.00 1.00 0.29
Lehew, extremely stony-----	20	Very limited Slope Large stones Cobble content Droughty Too acid	 1.00 1.00 1.00 0.97 0.73	Very limited Slope Cobble content Too acid Droughty Depth to bedrock	 1.00 1.00 1.00 0.97 0.03
Rock outcrop-----	15	Not rated		Not rated	
16C: Dekalb, very stony-----	60	Very limited Filtering capacity Droughty Large stones Too acid Slope	 1.00  1.00 0.76 0.73 0.37	Very limited Filtering capacity Too acid Droughty Slope Depth to bedrock	 1.00  1.00 1.00 0.37 0.29
Lily, very stony----	30	Somewhat limited Large stones Droughty Slope Depth to bedrock Too acid	 0.76 0.74 0.37 0.29 0.89	Very limited Too acid Droughty Slope Depth to bedrock	 1.00 0.74 0.37 0.29
16E: Dekalb, very stony-----	50	Very limited Slope Filtering capacity Droughty Large stones Too acid	 1.00 1.00  1.00 0.76 0.73	Very limited Filtering capacity Slope Too acid Droughty Depth to bedrock	 1.00  1.00 1.00 1.00 0.29
Lily, very stony----	40	Very limited Slope Large stones Droughty Depth to bedrock Too acid	 1.00 0.76 0.74 0.29 0.89	Very limited Slope Too acid Droughty Depth to bedrock	 1.00 1.00 0.74 0.29

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
17F: Dekalb, very stony-----	75	Very limited Slope Filtering capacity Droughty Large stones Too acid	 1.00 1.00  1.00 0.76 0.73	Very limited Filtering capacity Slope Too acid Droughty Depth to bedrock	 1.00  1.00 1.00 1.00 0.29
Lily, very stony---	20	Very limited Slope Large stones Droughty Depth to bedrock Too acid	 1.00 0.76 0.74 0.29 0.89	Very limited Slope Too acid Droughty Depth to bedrock	 1.00 1.00 0.74 0.29
18A: Derroc-----	85	Very limited Filtering capacity Flooding Cobble content Droughty	 1.00  1.00 1.00 0.08	Very limited Filtering capacity Flooding Cobble content Droughty	 1.00  1.00 1.00 0.08
19C: Edneytown-----	90	Somewhat limited Slope Too acid	 0.37 0.73	Very limited Too acid Slope	 1.00 0.37
19D: Edneytown-----	90	Very limited Slope Too acid	 1.00 0.73	Very limited Slope Too acid	 1.00 1.00
20C: Edneytown, very stony-----	60	Somewhat limited Too acid Large stones Slope	 0.73 0.53 0.37	Very limited Too acid Slope	 1.00 0.37
Peaks, very stony---	35	Very limited Filtering capacity Droughty Depth to bedrock Large stones Slope	 1.00  1.00 0.95 0.53 0.37	Very limited Filtering capacity Droughty Too acid Depth to bedrock Slope	 1.00  1.00 1.00 0.95 0.37
20E: Edneytown, very stony-----	60	Very limited Slope Too acid Large stones	 1.00 0.73 0.53	Very limited Slope Too acid	 1.00 1.00

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
20E: Peaks, very stony---	35	Very limited Slope Filtering capacity Droughty Depth to bedrock Large stones	 1.00 1.00  1.00 0.95 0.53	Very limited Filtering capacity Droughty Slope Too acid Depth to bedrock	 1.00  1.00 1.00 1.00 0.95
20F: Edneytown, very stony-----	60	Very limited Slope Too acid Large stones	 1.00 0.73 0.53	Very limited Slope Too acid	 1.00 1.00
Peaks, very stony---	35	Very limited Slope Filtering capacity Droughty Depth to bedrock Large stones	 1.00 1.00  1.00 0.95 0.53	Very limited Filtering capacity Droughty Slope Too acid Depth to bedrock	 1.00  1.00 1.00 1.00 0.95
21B: Escatawba-----	80	Somewhat limited Depth to saturated zone Too acid Slow water movement	 0.86  0.78 0.50	Very limited Too acid Depth to saturated zone Slow water movement	 1.00 0.86  0.37
21C: Escatawba-----	80	Somewhat limited Depth to saturated zone Too acid Slow water movement Slope	 0.86  0.78 0.50 0.37	Very limited Too acid Depth to saturated zone Slope Slow water movement	 1.00 0.86  0.37 0.37
22B: Frederick-----	85	Somewhat limited Too acid	 0.11	Somewhat limited Too acid	 0.42
22C: Frederick-----	80	Somewhat limited Slope Too acid	 0.37 0.11	Somewhat limited Too acid Slope	 0.42 0.37
22D: Frederick-----	80	Very limited Slope Too acid	 1.00 0.11	Very limited Slope Too acid	 1.00 0.42
23E: Frederick-----	65	Very limited Slope Too acid	 1.00 0.11	Very limited Slope Too acid	 1.00 0.42



# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
23E: Caneyville-----	30	Very limited Slope Droughty Depth to bedrock Slow water movement Too acid	 1.00 0.94 0.84 0.50  0.02	Very limited Slope Droughty Depth to bedrock Slow water movement Too acid	 1.00 0.94 0.84 0.37  0.07
24C: Frederick, very rocky-----	45	Somewhat limited Too acid Slope	 0.11 0.04	Somewhat limited Too acid Slope	 0.42 0.04
Caneyville, very rocky-----	35	Somewhat limited Droughty Depth to bedrock Slow water movement Slope Too acid	 0.94 0.84 0.50  0.04 0.02	Somewhat limited Droughty Depth to bedrock Slow water movement Too acid Slope	 0.94 0.84 0.37  0.07 0.04
24E: Frederick, very rocky-----	40	Very limited Slope Too acid	 1.00 0.11	Very limited Slope Too acid	 1.00 0.42
Caneyville, very rocky-----	38	Very limited Slope Droughty Depth to bedrock Slow water movement Too acid	 1.00 0.94 0.84 0.50  0.02	Very limited Slope Droughty Depth to bedrock Slow water movement Too acid	 1.00 0.94 0.84 0.37  0.07
25C: Frederick-----	60	Somewhat limited Slope Too acid	 0.37 0.32	Somewhat limited Too acid Slope	 0.91 0.37
Watahala-----	30	Somewhat limited Slope Too acid	 0.37 0.62	Very limited Too acid Slope	 1.00 0.37
25D: Frederick-----	45	Very limited Slope Too acid	 1.00 0.32	Very limited Slope Too acid	 1.00 0.91
Watahala-----	35	Very limited Slope Too acid	 1.00 0.62	Very limited Slope Too acid	 1.00 1.00
25E: Frederick-----	50	Very limited Slope Too acid	 1.00 0.32	Very limited Slope Too acid	 1.00 0.91

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
25E: Watahala-----	40	Very limited Slope Too acid	1.00 0.62	Very limited Slope Too acid	1.00 1.00
26A: Gladehill-----	85	Somewhat limited Flooding Too acid	0.60 0.02	Very limited Flooding Too acid	1.00 0.07
27B: Groseclose-----	80	Somewhat limited Slow water movement Too acid	0.50 0.37	Somewhat limited Too acid Slow water movement	0.96 0.37
27C: Groseclose-----	80	Somewhat limited Slow water movement Slope Too acid	0.50 0.37 0.37	Somewhat limited Too acid Slope Slow water movement	0.96 0.37 0.37
27D: Groseclose-----	80	Very limited Slope Slow water movement Too acid	1.00 0.50 0.37	Very limited Slope Too acid Slow water movement	1.00 0.96 0.37
28E: Groseclose-----	50	Very limited Slope Slow water movement Too acid	1.00 0.50 0.37	Very limited Slope Too acid Slow water movement	1.00 0.96 0.37
Needmore-----	40	Very limited Slope Droughty Slow water movement Depth to bedrock Too acid	1.00 0.52 0.50 0.20 0.02	Very limited Slope Droughty Slow water movement Depth to bedrock Too acid	1.00 0.52 0.37 0.20 0.07
29C: Groseclose-----	35	Somewhat limited Slow water movement Too acid	0.50 0.37	Somewhat limited Too acid Slow water movement	0.96 0.37
Needmore-----	30	Somewhat limited Droughty Slow water movement Depth to bedrock Slope Too acid	0.52 0.50 0.20 0.04 0.02	Somewhat limited Too acid Droughty Slow water movement Depth to bedrock Slope	0.07 0.52 0.37 0.20 0.04
Urban land-----	25	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
30A: Holly-----	50	Very limited Ponding Depth to saturated zone Flooding Runoff Too acid	 1.00 1.00  0.60 0.40 0.11	Very limited Ponding Depth to saturated zone Flooding Too acid	 1.00 1.00  1.00 0.42
Orrville-----	45	Very limited Ponding Depth to saturated zone Flooding	 1.00 1.00  0.60	Very limited Ponding Depth to saturated zone Flooding	 1.00 1.00  1.00
31A: Ingledove-----	85	Somewhat limited Too acid	 0.08	Somewhat limited Flooding Too acid	 0.40 0.31
32A: Irongate-----	85	Very limited Depth to saturated zone Flooding Too acid	 1.00 0.60 0.11	Very limited Depth to saturated zone Flooding Too acid	 1.00 1.00 0.42
33C: Litz-----	35	Somewhat limited Droughty Slope Depth to bedrock Too acid	 0.99 0.37 0.29 0.62	Very limited Too acid Droughty Slope Depth to bedrock	 1.00 0.99 0.37 0.29
Chiswell-----	30	Very limited Depth to bedrock Droughty Slope Too acid Runoff	 1.00 1.00 0.37 0.62 0.40	Very limited Depth to bedrock Droughty Too acid Slope	 1.00 1.00 1.00 0.37
Groseclose-----	20	Somewhat limited Slow water movement Slope Too acid	 0.50  0.37 0.37	Somewhat limited Too acid Slope Slow water movement	 0.96  0.37 0.37
33E: Litz-----	35	Very limited Slope Droughty Too acid Depth to bedrock	 1.00 0.99 0.62 0.29	Very limited Slope Too acid Droughty Depth to bedrock	 1.00 1.00 0.99 0.29
Chiswell-----	25	Very limited Slope Depth to bedrock Droughty Too acid Runoff	 1.00 1.00 1.00 0.62 0.40	Very limited Depth to bedrock Droughty Slope Too acid	 1.00 1.00 1.00 1.00

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
33E: Groseclose-----	25	Very limited Slope Slow water movement Too acid	 1.00 0.50  0.37	Very limited Slope Too acid Slow water movement	 1.00 0.96  0.37
33F: Litz-----	35	Very limited Slope Droughty Too acid Depth to bedrock	 1.00 0.99 0.62 0.29	Very limited Slope Too acid Droughty Depth to bedrock	 1.00 1.00 0.99 0.29
Chiswell-----	30	Very limited Slope Depth to bedrock Droughty Too acid Runoff	 1.00 1.00 1.00 0.62 0.40	Very limited Depth to bedrock Droughty Slope Too acid	 1.00 1.00 1.00 1.00
Groseclose-----	20	Very limited Slope Slow water movement Too acid	 1.00 0.50  0.37	Very limited Slope Too acid Slow water movement	 1.00 0.96  0.37
34C: Litz, very stony----	55	Somewhat limited Droughty Large stones Depth to bedrock Slope Too acid	 0.99 0.76 0.29 0.04 0.62	Very limited Too acid Droughty Depth to bedrock Slope	 1.00 0.99 0.29 0.04
Needmore, very stony-----	35	Somewhat limited Large stones Droughty Slow water movement Depth to bedrock Slope	 0.76 0.52 0.50  0.20 0.04	Somewhat limited Depth to bedrock Droughty Slow water movement Too acid Slope	 0.20 0.52 0.37  0.07 0.04
34E: Litz, very stony----	55	Very limited Slope Droughty Large stones Too acid Depth to bedrock	 1.00 0.99 0.76 0.62 0.29	Very limited Slope Too acid Droughty Depth to bedrock	 1.00 1.00 0.99 0.29
Needmore, very stony-----	35	Very limited Slope Large stones Droughty Slow water movement Depth to bedrock	 1.00 0.76 0.52 0.50  0.20	Very limited Slope Droughty Slow water movement Depth to bedrock Too acid	 1.00 0.52 0.37  0.20 0.07

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
34F: Litz, very stony----	55	Very limited Slope Droughty Large stones Too acid Depth to bedrock	 1.00 0.99 0.76 0.62 0.29	Very limited Slope Too acid Droughty Depth to bedrock	 1.00 1.00 0.99 0.29
Needmore, very stony-----	35	Very limited Slope Large stones Droughty Slow water movement Depth to bedrock	 1.00 0.76 0.52 0.50 0.20	Very limited Slope Droughty Slow water movement Depth to bedrock Too acid	 1.00 0.52 0.37 0.20 0.07
35C: Lodi-----	40	Somewhat limited Too acid Slope	 0.50 0.37	Very limited Too acid Slope	 1.00 0.37
McClung-----	35	Somewhat limited Slope Too acid	 0.37 0.92	Very limited Too acid Slope	 1.00 0.37
Lily-----	20	Somewhat limited Too acid Droughty Slope Depth to bedrock	 0.89 0.74 0.37 0.29	Very limited Too acid Droughty Slope Depth to bedrock	 1.00 0.74 0.37 0.29
35E: Lodi-----	35	Very limited Slope Too acid	 1.00 0.50	Very limited Slope Too acid	 1.00 1.00
McClung-----	30	Very limited Slope Too acid	 1.00 0.92	Very limited Slope Too acid	 1.00 1.00
Lily-----	25	Very limited Slope Too acid Droughty Depth to bedrock	 1.00 0.89 0.74 0.29	Very limited Slope Too acid Droughty Depth to bedrock	 1.00 1.00 0.74 0.29
36C: Lostcove, extremely stony-----	80	Very limited Large stones Cobble content Too acid Slope Droughty	 1.00 1.00 0.62 0.37 0.02	Very limited Cobble content Too acid Slope Droughty Large stones on the surface	 1.00 1.00 0.37 0.02 0.02

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
37E: Lostcove, very stony-----	80	Very limited Slope Cobble content Large stones Too acid Droughty	1.00 1.00 0.76 0.62 0.02	Very limited Slope Cobble content Too acid Droughty Large stones on the surface	1.00 1.00 1.00 0.02 0.02
37F: Lostcove, very stony-----	80	Very limited Slope Cobble content Large stones Too acid Droughty	1.00 1.00 0.76 0.62 0.02	Very limited Slope Cobble content Too acid Droughty Large stones on the surface	1.00 1.00 1.00 0.02 0.02
38E: Marbleyard, extremely stony----	70	Very limited Slope Slow water movement Large stones Droughty Too acid	1.00 1.00 1.00 1.00 1.00 0.73	Very limited Slow water movement Slope Droughty Too acid Cobble content	1.00 1.00 1.00 1.00 1.00 0.68
Rock outcrop-----	15	Not rated		Not rated	
39F: Marbleyard, extremely stony----	45	Very limited Slope Slow water movement Large stones Droughty Too acid	1.00 1.00 1.00 1.00 1.00 0.73	Very limited Slow water movement Slope Droughty Too acid Cobble content	1.00 1.00 1.00 1.00 1.00 0.68
Sherando, extremely stony-----	30	Very limited Slope Filtering capacity Large stones Droughty Too acid	1.00 1.00 1.00 0.95 0.62	Very limited Filtering capacity Slope Too acid Droughty	1.00 1.00 1.00 1.00 0.95
Rock outcrop-----	20	Not rated		Not rated	
39G: Marbleyard, extremely stony----	45	Very limited Slope Slow water movement Large stones Droughty Too acid	1.00 1.00 1.00 1.00 1.00 0.73	Very limited Slow water movement Slope Droughty Too acid Cobble content	1.00 1.00 1.00 1.00 1.00 0.68



# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
39G: Sherando, extremely stony-----	30	Very limited Slope Filtering capacity Large stones Droughty Too acid	 1.00 1.00 1.00 0.95 0.62	Very limited Filtering capacity Slope Too acid Droughty	 1.00 1.00 1.00 1.00 0.95
39G: Rock outcrop-----	20	Not rated		Not rated	
40A: Maurertown-----	50	Very limited Slow water movement Ponding Depth to saturated zone Runoff Too acid	 1.00 1.00 1.00 0.40 0.02	Very limited Slow water movement Ponding Depth to saturated zone Flooding Too acid	 1.00 1.00 1.00 0.40 0.07
Toms-----	45	Very limited Slow water movement Ponding Depth to saturated zone	 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Slow water movement Flooding	 1.00 1.00 1.00 0.40
41C: McCamy, very stony-----	85	Somewhat limited Droughty Too acid Large stones Depth to bedrock Slope	 0.98 0.73 0.47 0.35 0.04	Very limited Too acid Droughty Depth to bedrock Slope	 1.00 0.98 0.35 0.04
42F: McClung, very stony-----	40	Very limited Slope Too acid Large stones	 1.00 0.92 0.19	Very limited Slope Too acid	 1.00 1.00
Caneyville, very stony-----	30	Very limited Slope Droughty Depth to bedrock Slow water movement Large stones	 1.00 0.94 0.84 0.50 0.19	Very limited Slope Droughty Depth to bedrock Slow water movement Too acid	 1.00 0.94 0.84 0.37 0.07

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
42F: Dekalb, very stony-----	25	Very limited Slope Filtering capacity Droughty Large stones Too acid	 1.00 1.00 1.00 0.76 0.73	Very limited Filtering capacity Slope Too acid Droughty Depth to bedrock	 1.00  1.00 1.00 1.00 0.29
43C: Needmore-----	60	Somewhat limited Droughty Slow water movement Depth to bedrock Slope Too acid	 0.52 0.50  0.20 0.04 0.02	Somewhat limited Droughty Slow water movement Depth to bedrock Too acid Slope	 0.52 0.37  0.20 0.07 0.04
Opequon-----	30	Very limited Depth to bedrock Droughty Slope	 1.00 1.00 0.04	Very limited Depth to bedrock Droughty Slope	 1.00 1.00 0.04
43E: Needmore-----	55	Very limited Slope Droughty Slow water movement Depth to bedrock Too acid	 1.00 0.52 0.50  0.20 0.02	Very limited Slope Droughty Slow water movement Depth to bedrock Too acid	 1.00 0.52 0.37  0.20 0.07
Opequon-----	35	Very limited Slope Depth to bedrock Droughty	 1.00 1.00 1.00	Very limited Depth to bedrock Droughty Slope	 1.00 1.00 1.00
43F: Needmore-----	50	Very limited Slope Droughty Slow water movement Depth to bedrock Too acid	 1.00 0.52 0.50  0.20 0.02	Very limited Slope Droughty Slow water movement Depth to bedrock Too acid	 1.00 0.52 0.37  0.20 0.07
Opequon-----	40	Very limited Slope Depth to bedrock Droughty	 1.00 1.00 1.00	Very limited Depth to bedrock Droughty Slope	 1.00 1.00 1.00
44E: Needmore-----	70	Very limited Slope Droughty Slow water movement Depth to bedrock Too acid	 1.00 0.52 0.50  0.20 0.02	Very limited Slope Droughty Slow water movement Depth to bedrock	 1.00 0.52 0.37  0.20
Urban land-----	25	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
45B: Nicelytown-----	80	Very limited Depth to saturated zone Slow water movement Too acid	1.00 0.64 0.62	Very limited Depth to saturated zone Too acid Slow water movement	1.00 1.00 0.50
46B: Nicelytown-----	50	Very limited Depth to saturated zone Slow water movement Too acid	1.00 0.64 0.62	Very limited Depth to saturated zone Too acid Slow water movement	1.00 1.00 0.50
Urban land-----	45	Not rated		Not rated	
47C: Oriskany, extremely stony-----	65	Very limited Large stones Slope Cobble content Too acid	1.00 0.37 0.18 0.37	Somewhat limited Too acid Slope Cobble content	0.96 0.37 0.18
Laidig, extremely stony-----	25	Very limited Large stones Too acid Depth to saturated zone Slope Droughty	1.00 0.73 0.68 0.37 0.24	Very limited Too acid Depth to saturated zone Slope Depth to cemented pan Droughty	1.00 0.68 0.37 0.29 0.24
47E: Oriskany, extremely stony-----	60	Very limited Slope Large stones Too acid Cobble content	1.00 1.00 0.37 0.18	Very limited Slope Too acid Cobble content	1.00 0.96 0.18
Laidig, extremely stony-----	30	Very limited Slope Large stones Too acid Depth to saturated zone Droughty	1.00 1.00 0.73 0.68 0.24	Very limited Slope Too acid Depth to saturated zone Depth to cemented pan Droughty	1.00 1.00 0.68 0.29 0.24
48F: Oriskany, extremely stony-----	80	Very limited Slope Large stones Too acid Cobble content	1.00 1.00 0.37 0.18	Very limited Slope Too acid Cobble content	1.00 0.96 0.18

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
49C: Oriskany, extremely stony-----	55	Very limited Large stones Slope Too acid Cobble content	 1.00 0.37 0.37 0.18	Somewhat limited Too acid Slope Cobble content	 0.96 0.37 0.18
Murrill, extremely stony-----	35	Very limited Large stones Cobble content Too acid Slope	 1.00 1.00 0.62 0.37	Very limited Cobble content Too acid Slope	 1.00 1.00 0.37
49E: Oriskany, extremely stony-----	55	Very limited Slope Large stones Too acid Cobble content	 1.00 1.00 0.37 0.18	Very limited Very limited Slope Too acid Cobble content	 1.00 0.96 0.18
Murrill, extremely stony-----	35	Very limited Slope Large stones Cobble content Too acid	 1.00 1.00 1.00 0.62	Very limited Slope Cobble content Too acid	 1.00 1.00 1.00
49F: Oriskany, extremely stony-----	65	Very limited Slope Large stones Too acid Cobble content	 1.00 1.00 0.37 0.18	Very limited Slope Too acid Cobble content	 1.00 0.96 0.18
Murrill, extremely stony-----	25	Very limited Slope Large stones Cobble content Too acid	 1.00 1.00 1.00 0.62	Very limited Slope Cobble content Too acid	 1.00 1.00 1.00
50E: Peaks, very rocky---	55	Very limited Slope Filtering capacity Droughty Depth to bedrock Large stones	 1.00 1.00  1.00 0.95 0.53	Very limited Filtering capacity Droughty Slope Too acid Depth to bedrock	 1.00  1.00 1.00 1.00 0.95
Edneytown, very rocky-----	40	Very limited Slope Too acid Large stones	 1.00 0.73 0.53	Very limited Slope Too acid	 1.00 1.00

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
50F: Peaks, very rocky----	55	Very limited Slope Filtering capacity Droughty Depth to bedrock Large stones	 1.00 1.00 1.00 0.95 0.53	Very limited Filtering capacity Droughty Slope Too acid Depth to bedrock	 1.00 1.00 1.00 1.00 1.00 0.95
Edneytown, very rocky-----	40	Very limited Slope Too acid Large stones	 1.00 0.73 0.53	Very limited Slope Too acid	 1.00 1.00
51A: Philo-----	75	Very limited Depth to saturated zone Flooding Too acid	 1.00 0.60 0.43	Very limited Depth to saturated zone Flooding Too acid	 1.00 1.00 1.00 0.99
52C: Pignut, very stony-----	50	Somewhat limited Large stones Too acid Slope Depth to bedrock Droughty	 0.76 0.37 0.04 0.03 0.03	Somewhat limited Too acid Slope Depth to bedrock Droughty	 0.96 0.04 0.03 0.03
Myersville, very stony-----	40	Somewhat limited Large stones Too acid Slope	 0.76 0.32 0.04	Somewhat limited Too acid Slope	 0.91 0.04
53E: Pignut, very stony-----	90	Very limited Slope Large stones Depth to bedrock Droughty Too acid	 1.00 0.76 0.03 0.03 0.37	Very limited Slope Depth to bedrock Too acid Droughty	 1.00 0.03 0.96 0.03
53F: Pignut, very stony-----	90	Very limited Slope Large stones Too acid Depth to bedrock Droughty	 1.00 0.76 0.37 0.03 0.03	Very limited Slope Too acid Depth to bedrock Droughty	 1.00 0.96 0.03 0.03
54: Pits-----	50	Not rated		Not rated	
Dumps-----	45	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste	Value	Application of sewage sludge	Value
		Rating class and limiting features		Rating class and limiting features	
55A: Pope-----	90	Somewhat limited Flooding Leaching Too acid	 0.60 0.45 0.11	Very limited Flooding Too acid	 1.00 0.42
56G: Rock outcrop-----	60	Not rated		Not rated	
Opequon-----	25	Very limited Slope Depth to bedrock Droughty	 1.00 1.00 1.00	Very limited Depth to bedrock Droughty Slope	 1.00 1.00 1.00
57A: Sensabaugh-----	40	Somewhat limited Flooding	 0.60	Very limited Flooding Too acid	 1.00 0.01
Lobdell-----	30	Very limited Depth to saturated zone Flooding	 1.00 0.60	Very limited Depth to saturated zone Flooding	 1.00 1.00
Derroc-----	20	Very limited Filtering capacity Cobble content Flooding Droughty	 1.00 1.00 0.60 0.08	Very limited Filtering capacity Flooding Cobble content Droughty	 1.00 1.00 1.00 0.08
58B: Shottower-----	90	Somewhat limited Low adsorption Too acid	 0.29 0.05	Somewhat limited Too acid	 0.21
58C: Shottower-----	90	Somewhat limited Slope Low adsorption Too acid	 0.37 0.29 0.05	Somewhat limited Slope Too acid	 0.37 0.21
58D: Shottower-----	85	Very limited Slope Low adsorption Too acid	 1.00 0.29 0.05	Very limited Slope Too acid	 1.00 0.21
59E: Shottower-----	85	Very limited Slope Low adsorption Too acid	 1.00 0.38 0.05	Very limited Slope Too acid	 1.00 0.21
60C: Shottower-----	50	Somewhat limited Low adsorption Too acid	 0.29 0.05	Somewhat limited Too acid	 0.21
Urban land-----	45	Not rated		Not rated	



# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste	Value	Application of sewage sludge	Value
		Rating class and limiting features		Rating class and limiting features	
61B: Slabtown-----	80	Somewhat limited Depth to saturated zone Slow water movement Too acid	0.95 0.50 0.02	Somewhat limited Depth to saturated zone Slow water movement Too acid	0.95 0.37 0.07
61C: Slabtown-----	80	Somewhat limited Depth to saturated zone Slow water movement Slope Too acid	0.95 0.50 0.37 0.37 0.02	Somewhat limited Depth to saturated zone Slope Slow water movement Too acid	0.95 0.37 0.37 0.07
62: Slickens-----	100	Not rated		Not rated	
63E: Stumptown, extremely stony----	40	Very limited Slope Large stones Droughty Too acid Depth to bedrock	1.00 1.00 1.00 0.89 0.20	Very limited Slope Too acid Droughty Depth to bedrock	1.00 1.00 1.00 0.20
Marbleyard, extremely stony----	35	Very limited Slope Slow water movement Large stones Droughty Too acid	1.00 1.00 1.00 1.00 0.73	Very limited Slow water movement Slope Droughty Too acid Cobble content	1.00 1.00 1.00 1.00 0.68
Rock outcrop-----	15	Not rated		Not rated	
63F: Stumptown, extremely stony----	40	Very limited Slope Large stones Droughty Too acid Depth to bedrock	1.00 1.00 1.00 0.89 0.20	Very limited Slope Too acid Droughty Depth to bedrock	1.00 1.00 1.00 0.20
Marbleyard, extremely stony----	35	Very limited Slope Slow water movement Large stones Droughty Too acid	1.00 1.00 1.00 1.00 0.73	Very limited Slow water movement Slope Droughty Too acid Cobble content	1.00 1.00 1.00 1.00 0.68
Rock outcrop-----	15	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
63G: Stumptown, extremely stony----	40	Very limited Slope Large stones Droughty Too acid Depth to bedrock	 1.00 1.00 1.00 0.89 0.20	Very limited Slope Too acid Droughty Depth to bedrock	 1.00 1.00 1.00 0.20
Marbleyard, extremely stony----	35	Very limited Slope Slow water movement Large stones Droughty Too acid	 1.00 1.00  1.00 1.00 0.73	Very limited Slow water movement Slope Droughty Too acid Cobble content	 1.00  1.00 1.00 1.00 0.68
Rock outcrop-----	15	Not rated		Not rated	
64E: Stumptown, very stony-----	50	Very limited Slope Droughty Too acid Depth to bedrock Large stones	 1.00 1.00 0.89 0.20 0.19	Very limited Slope Too acid Droughty Depth to bedrock	 1.00 1.00 1.00 0.20
Sylco, very stony---	45	Very limited Slope Droughty Large stones Too acid Depth to bedrock	 1.00 1.00 0.76 0.73 0.54	Very limited Slope Too acid Droughty Depth to bedrock Cobble content	 1.00 1.00 1.00 0.54 0.08
64F: Stumptown, very stony-----	50	Very limited Slope Droughty Too acid Depth to bedrock Large stones	 1.00 1.00 0.89 0.20 0.19	Very limited Slope Too acid Droughty Depth to bedrock	 1.00 1.00 1.00 0.20
Sylco, very stony---	35	Very limited Slope Droughty Large stones Too acid Depth to bedrock	 1.00 1.00 0.76 0.73 0.54	Very limited Slope Too acid Droughty Depth to bedrock Cobble content	 1.00 1.00 1.00 0.54 0.08
65E: Sylco, very rocky---	45	Very limited Slope Droughty Too acid Depth to bedrock Cobble content	 1.00 1.00 0.73 0.54 0.08	Very limited Slope Too acid Droughty Depth to bedrock Cobble content	 1.00 1.00 1.00 0.54 0.08

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
65E: Marbleyard, very rocky-----	40	Very limited Slope Slow water movement Large stones Droughty Too acid	 1.00 1.00  1.00 1.00 0.73	Very limited Slow water movement Slope Droughty Too acid Cobble content	 1.00  1.00 1.00 1.00 0.68
65F: Sylco, very rocky---	50	Very limited Slope Droughty Too acid Depth to bedrock Cobble content	 1.00 1.00 0.73 0.54 0.08	Very limited Slope Too acid Droughty Depth to bedrock Cobble content	 1.00 1.00 1.00 0.54 0.08
Marbleyard, very rocky-----	45	Very limited Slope Slow water movement Large stones Droughty Too acid	 1.00 1.00  1.00 1.00 0.73	Very limited Slow water movement Slope Droughty Too acid Cobble content	 1.00  1.00 1.00 1.00 0.68
65G: Sylco, very rocky---	50	Very limited Slope Droughty Too acid Depth to bedrock Cobble content	 1.00 1.00 0.73 0.54 0.08	Very limited Slope Too acid Droughty Depth to bedrock Cobble content	 1.00 1.00 1.00 0.54 0.08
Marbleyard, very rocky-----	35	Very limited Slope Slow water movement Large stones Droughty Too acid	 1.00 1.00  1.00 1.00 0.73	Very limited Slow water movement Slope Droughty Too acid Cobble content	 1.00  1.00 1.00 1.00 0.68
66C: Thunder, very bouldery-----	50	Somewhat limited Cobble content Too acid Slope Large stones Large stones the surface	 0.87 0.62 0.37 0.19 0.18	Very limited Too acid Cobble content Slope Large stones on the surface	 1.00 0.87 0.37 0.18
Saunook, very bouldery-----	30	Somewhat limited Too acid Slope Large stones	 0.62 0.37 0.19	Very limited Too acid Slope	 1.00 0.37

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
66E: Thunder, very bouldery-----	50	Very limited Slope Cobble content Too acid Large stones Large stones on the surface	1.00 0.87 0.62 0.19 0.18	Very limited Slope Too acid Cobble content Large stones on the surface	1.00 1.00 0.87 0.18
Saunook, very bouldery-----	30	Very limited Slope Too acid Large stones	1.00 0.62 0.19	Very limited Slope Too acid	1.00 1.00
66F: Thunder, very bouldery-----	50	Very limited Slope Cobble content Too acid Large stones Large stones on the surface	1.00 0.87 0.62 0.19 0.18	Very limited Slope Too acid Cobble content Large stones on the surface	1.00 1.00 0.87 0.18
Saunook, very bouldery-----	30	Very limited Slope Too acid Large stones	1.00 0.62 0.19	Very limited Slope Too acid	1.00 1.00
67C: Tumbling-----	50	Somewhat limited Slope Low adsorption Too acid	0.37 0.31 0.11	Somewhat limited Too acid Slope	0.42 0.37
Vanella-----	40	Somewhat limited Slope Too acid	0.37 0.27	Somewhat limited Too acid Slope	0.85 0.37
67D: Tumbling-----	50	Very limited Slope Low adsorption Too acid	1.00 0.31 0.11	Very limited Slope Too acid	1.00 0.42
Vanella-----	40	Very limited Slope Too acid	1.00 0.27	Very limited Slope Too acid	1.00 0.85
67E: Tumbling-----	50	Very limited Slope Low adsorption Too acid	1.00 0.31 0.11	Very limited Slope Too acid	1.00 0.42
Vanella-----	40	Very limited Slope Too acid	1.00 0.27	Very limited Slope Too acid	1.00 0.85

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
68D:					
Tumbling-----	35	Somewhat limited Slope	0.37	Somewhat limited Too acid	0.42
		Low adsorption	0.31	Slope	0.37
		Too acid	0.11		
Vanella-----	30	Somewhat limited Slope	0.37	Somewhat limited Too acid	0.85
		Too acid	0.27	Slope	0.37
Urban land-----	25	Not rated		Not rated	
69A:					
Tygart-----	55	Very limited Slow water movement	1.00	Very limited Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Runoff	0.40	Too acid	0.42
		Too acid	0.11		
Purdy-----	40	Very limited Slow water movement	1.00	Very limited Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Too acid	0.73	Too acid	1.00
		Runoff	0.40		
70:					
Udorthents, refuse substratum-----	85	Not rated		Not rated	
71:					
Udorthents-----	50	Not rated		Not rated	
Urban land-----	45	Not rated		Not rated	
72C:					
Unaka, very stony---	60	Somewhat limited Droughty	0.93	Very limited Too acid	1.00
		Large stones	0.76	Droughty	0.93
		Depth to bedrock	0.71	Depth to bedrock	0.71
		Too acid	0.62	Slope	0.16
		Slope	0.16		
Plott, very stony---	30	Somewhat limited Large stones	0.76	Very limited Too acid	1.00
		Too acid	0.62	Slope	0.16
		Leaching	0.45		
		Slope	0.16		
72E:					
Unaka, very stony---	65	Very limited Slope	1.00	Very limited Slope	1.00
		Droughty	0.93	Too acid	1.00
		Large stones	0.76	Droughty	0.93
		Depth to bedrock	0.71	Depth to bedrock	0.71
		Too acid	0.62		

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
72E: Plott, very stony---	30	Very limited Slope Large stones Too acid Leaching	 1.00 0.76 0.62 0.45	Very limited Slope Too acid	 1.00 1.00
73C: Vanella, very stony-----	50	Somewhat limited Too acid Large stones Cobble content Slope	 0.62 0.53 0.24 0.04	Very limited Too acid Cobble content Slope	 1.00 0.24 0.04
Tumbling, very stony-----	40	Somewhat limited Too acid Large stones Low adsorption Slope	 0.62 0.53 0.52 0.04	Very limited Too acid Slope	 1.00 0.04
73E: Vanella, very stony-----	50	Very limited Slope Too acid Large stones Cobble content	 1.00 0.62 0.53 0.24	Very limited Slope Too acid Cobble content	 1.00 1.00 0.24
Tumbling, very stony-----	40	Very limited Slope Too acid Large stones Low adsorption	 1.00 0.62 0.53 0.52	Very limited Slope Too acid	 1.00 1.00
74C: Watahala, very stony-----	60	Somewhat limited Strongly contrasting textural stratification Slope Too acid Large stones Cobble content	 0.84    0.37 0.37 0.19 0.18	Somewhat limited Too acid Strongly contrasting textural stratification Slope Cobble content	 0.96 0.84    0.37 0.18
Frederick, very stony-----	30	Somewhat limited Too acid Slope Cobble content Large stones	 0.89 0.37 0.32 0.19	Very limited Too acid Slope Cobble content	 1.00 0.37 0.32



# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
74E: Watahala, very stony-----	50	Very limited Slope Strongly contrasting textural stratification Too acid Large stones Cobble content	1.00 0.84    0.37 0.19 0.18	Very limited Slope Too acid Strongly contrasting textural stratification Cobble content	1.00 0.96 0.84    0.18
Frederick, very stony-----	35	Very limited Slope Too acid Cobble content Large stones	1.00 0.89 0.32 0.19	Very limited Slope Too acid Cobble content	1.00 1.00 0.32
74F: Watahala, very stony-----	60	Very limited Slope Strongly contrasting textural stratification Too acid Large stones Cobble content	1.00 0.84    0.37 0.19 0.18	Very limited Slope Too acid Strongly contrasting textural stratification Cobble content	1.00 0.96 0.84    0.18
Frederick, very stony-----	20	Very limited Slope Too acid Cobble content Large stones	1.00 0.89 0.32 0.19	Very limited Slope Too acid Cobble content	1.00 1.00 0.32
75E: Weikert-----	45	Very limited Slope Depth to bedrock Droughty Too acid Runoff	1.00 1.00 1.00 0.62 0.40	Very limited Depth to bedrock Droughty Slope Too acid	1.00 1.00 1.00 1.00
Berks-----	30	Very limited Slope Droughty Too acid Depth to bedrock	1.00 0.77 0.62 0.46	Very limited Slope Too acid Droughty Depth to bedrock	1.00 1.00 0.77 0.46
Rough-----	20	Very limited Slope Depth to bedrock Droughty Too acid Cobble content	1.00 1.00 1.00 0.62 0.08	Very limited Depth to bedrock Too acid Droughty Slope Cobble content	1.00 1.00 1.00 1.00 0.08

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
75F:					
Weikert-----	45	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Droughty	1.00
		Droughty	1.00	Slope	1.00
		Too acid	0.62	Too acid	1.00
		Runoff	0.40		
Berks-----	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.77	Too acid	1.00
		Depth to bedrock	0.46	Droughty	0.77
		Too acid	0.62	Depth to bedrock	0.46
Rough-----	15	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too acid	1.00
		Droughty	1.00	Droughty	1.00
		Too acid	0.62	Slope	1.00
		Cobble content	0.08	Cobble content	0.08
76G:					
Weikert-----	35	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Droughty	1.00
		Droughty	1.00	Slope	1.00
		Too acid	0.62	Too acid	1.00
		Runoff	0.40		
Rough-----	30	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too acid	1.00
		Droughty	1.00	Droughty	1.00
		Too acid	0.62	Slope	1.00
		Cobble content	0.08	Cobble content	0.08
Rock outcrop-----	25	Not rated		Not rated	
77C:					
Wintergreen-----	90	Somewhat limited		Very limited	
		Too acid	0.73	Too acid	1.00
		Slope	0.37	Slope	0.37
77D:					
Wintergreen-----	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.73	Too acid	1.00
77E:					
Wintergreen-----	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.73	Too acid	1.00
78E:					
Wintergreen, very stony-----	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.73	Too acid	1.00
		Large stones	0.47		

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
79A: Wolfgap-----	90	Not limited		Somewhat limited Flooding	0.40
80A: Wolfgap-----	35	Not limited		Somewhat limited Flooding	0.40
Derroc-----	30	Very limited Filtering capacity Cobble content Droughty	1.00 1.00 0.08	Very limited Filtering capacity Cobble content Flooding Droughty	1.00 1.00 0.40 0.08
Urban land-----	25	Not rated		Not rated	
W: Water-----	100	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1A: Alonzville, rarely flooded-----	80	Somewhat limited Too acid	0.96	Very limited Seepage Too acid Flooding	1.00 0.96 0.40
2B: Alonzville-----	80	Somewhat limited Too acid Too steep for surface application	0.96 0.32	Very limited Seepage Too acid	1.00 0.96
3B: Alonzville-----	50	Somewhat limited Too acid Too steep for surface application	0.96 0.32	Very limited Seepage Too acid	1.00 0.96
Urban land-----	45	Not rated		Not rated	
4C: Berks-----	50	Very limited Too acid Too steep for surface application Droughty Too steep for sprinkler application Depth to bedrock	1.00 1.00 0.77 0.60 0.46	Very limited Seepage Depth to bedrock Too acid Too steep for surface application Cobble content	1.00 1.00 1.00 0.94 0.12
Weikert-----	40	Very limited Depth to bedrock Droughty Too acid Too steep for surface application Too steep for sprinkler application	1.00 1.00 1.00 1.00 0.60	Very limited Seepage Depth to bedrock Too acid Too steep for surface application Cobble content	1.00 1.00 1.00 0.94 0.31
5A: Botetourt-----	90	Very limited Depth to saturated zone	1.00	Very limited Seepage Depth to saturated zone Flooding	1.00 1.00 0.40

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation	Value	Overland flow of wastewater	Value
		Rating class and limiting features		Rating class and limiting features	
6A:					
Botetourt-----	50	Very limited Depth to saturated zone	1.00	Very limited Seepage Depth to saturated zone Flooding	1.00 1.00 0.40
Urban land-----	45	Not rated		Not rated	
7A:					
Buckton-----	55	Somewhat limited Flooding	0.60	Very limited Seepage Flooding	1.00 1.00
Weaver-----	30	Very limited Depth to saturated zone Flooding	1.00 0.60	Very limited Seepage Depth to saturated zone Flooding	1.00 1.00 1.00
8F:					
Caneyville-----	60	Very limited Too steep for surface application Too steep for sprinkler application Droughty Depth to bedrock Too acid	1.00 1.00 0.94 0.84 0.07	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	1.00 1.00 1.00 0.07
Frederick-----	20	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 0.42	Very limited Seepage Too steep for surface application Too acid	1.00 1.00 0.42
Rock outcrop-----	15	Not rated		Not rated	
9C:					
Carbo, very rocky---	55	Very limited Droughty Slow water movement Too steep for surface application Depth to bedrock Too steep for sprinkler application	1.00 1.00 1.00 0.84 0.22	Very limited Seepage Depth to bedrock Too steep for surface application	1.00 1.00 0.50

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
9C: Opequon, very rocky-----	30	Very limited Depth to bedrock Droughty Too steep for surface application Too steep for sprinkler application	 1.00 1.00 1.00  0.22	Very limited Depth to bedrock Seepage Too steep for surface application	 1.00 1.00 0.50
9E: Carbo, very rocky---	50	Very limited Too steep for surface application Too steep for sprinkler application Droughty Slow water movement Depth to bedrock	 1.00  1.00  1.00 1.00  0.84	Very limited Seepage Depth to bedrock Too steep for surface application	 1.00 1.00 1.00
Opequon, very rocky-----	35	Very limited Depth to bedrock Droughty Too steep for surface application Too steep for sprinkler application	 1.00 1.00 1.00  1.00	Very limited Depth to bedrock Too steep for surface application Seepage	 1.00 1.00 1.00
10F: Carbo-----	55	Very limited Too steep for surface application Too steep for sprinkler application Droughty Slow water movement Depth to bedrock	 1.00  1.00  1.00 1.00  0.84	Very limited Seepage Depth to bedrock Too steep for surface application	 1.00 1.00 1.00
Opequon-----	25	Very limited Depth to bedrock Droughty Too steep for surface application Too steep for sprinkler application	 1.00 1.00 1.00  1.00	Very limited Depth to bedrock Too steep for surface application Seepage	 1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	



# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
11B: Cottonbend-----	85	Somewhat limited Too steep for surface application Too acid	0.32  0.07	Very limited Seepage Too acid	1.00  0.07
11C: Cottonbend-----	85	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00  0.60  0.07	Very limited Seepage Too steep for surface application Too acid	1.00  0.94  0.07
12A: Coursey, rarely flooded-----	80	Very limited Depth to saturated zone Too acid	1.00  0.96	Very limited Seepage Depth to saturated zone Too acid Flooding	1.00  1.00  0.96 0.40
13B: Coursey-----	80	Very limited Depth to saturated zone Too acid Too steep for surface application	1.00  0.96  0.08	Very limited Seepage Depth to saturated zone Too acid	1.00  1.00  0.96
14C: Dekalb, very stony-----	50	Very limited Filtering capacity Too acid Droughty Too steep for surface application Depth to bedrock	1.00  1.00  1.00  1.00  0.29	Very limited Seepage Depth to bedrock Too acid Cobble content Too steep for surface application	1.00  1.00  1.00  1.00  0.50
Lehew, very stony---	20	Very limited Cobble content Too acid Too steep for surface application Droughty Too steep for sprinkler application	1.00  1.00  1.00  0.97  0.22	Very limited Seepage Depth to bedrock Too acid Cobble content Too steep for surface application	1.00  1.00  1.00  1.00  0.50

# Soil Survey of Rockbridge County, Virginia

Table 7.—Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
14C: Berks, very stony---	15	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Too steep for surface	1.00	Depth to bedrock	1.00
		Too steep for application		Too acid	1.00
		Droughty	0.77	Too steep for surface	0.50
		Depth to bedrock	0.46	application	
		Too steep for sprinkler application	0.22	Cobble content	0.12
14E: Dekalb, very stony-----	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface	1.00	Depth to bedrock	1.00
		Too steep for application		Too steep for surface	1.00
		Too steep for sprinkler application	1.00	application	
		Too acid	1.00	Too acid	1.00
		Droughty	1.00	Cobble content	1.00
Lehew, very stony---	20	Very limited		Very limited	
		Too steep for surface	1.00	Seepage	1.00
		Too steep for application		Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface	1.00
		Cobble content	1.00	application	
		Too acid	1.00	Too acid	1.00
		Droughty	0.97	Cobble content	1.00
Berks, very stony---	15	Very limited		Very limited	
		Too steep for surface	1.00	Seepage	1.00
		Too steep for application		Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface	1.00
		Too acid	1.00	application	
		Droughty	0.77	Too acid	1.00
		Depth to bedrock	0.46	Cobble content	0.12
14F: Dekalb, very stony-----	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface	1.00	Depth to bedrock	1.00
		Too steep for application		Too steep for surface	1.00
		Too steep for sprinkler application	1.00	application	
		Too acid	1.00	Too acid	1.00
		Droughty	1.00	Cobble content	1.00

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
14F: Lehew, very stony---	20	Very limited Too steep for surface application Too steep for sprinkler application Cobble content Too acid Droughty	 1.00  1.00  1.00 1.00 1.00 0.97	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 1.00
Berks, very stony---	15	Very limited Too steep for surface application Too steep for sprinkler application Too acid Droughty Depth to bedrock	 1.00  1.00  1.00 1.00 0.77 0.46	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 0.12
15E: DeKalb, extremely stony-----	50	Very limited Filtering capacity Too steep for surface application Too steep for sprinkler application Too acid Droughty	 1.00  1.00  1.00  1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00
Lehew, extremely stony-----	30	Very limited Too steep for surface application Too steep for sprinkler application Cobble content Too acid Droughty	 1.00  1.00  1.00 1.00 1.00 0.97	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
15F: Dekalb, extremely stony-----	50	Very limited Filtering capacity Too steep for surface application Too steep for sprinkler application Too acid Droughty	 1.00  1.00  1.00  1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 1.00
Lehew, extremely stony-----	20	Very limited Too steep for surface application Too steep for sprinkler application Cobble content Too acid Droughty	 1.00  1.00  1.00 1.00 1.00 0.97	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	
16C: Dekalb, very stony-----	60	Very limited Filtering capacity Too acid Droughty Too steep for surface application Too steep for sprinkler application	 1.00 1.00 1.00 1.00  0.60	Very limited Seepage Depth to bedrock Too acid Cobble content Too steep for surface application	 1.00 1.00 1.00 1.00 0.94
Lily, very stony----	30	Very limited Too acid Too steep for surface application Droughty Too steep for sprinkler application Depth to bedrock	 1.00 1.00  0.74 0.60  0.29	Very limited Seepage Depth to bedrock Too acid Too steep for surface application	 1.00 1.00 1.00 0.94

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
16E: Dekalb, very stony-----	50	Very limited Filtering capacity Too steep for surface application Too steep for sprinkler application Too acid Droughty	 1.00 1.00 1.00 1.00 1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00 1.00 1.00 1.00
Lily, very stony----	40	Very limited Too steep for surface application Too steep for sprinkler application Too acid Droughty Depth to bedrock	 1.00 1.00 1.00 1.00 0.74 0.29	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	 1.00 1.00 1.00 1.00  
17F: Dekalb, very stony-----	75	Very limited Filtering capacity Too steep for surface application Too steep for sprinkler application Too acid Droughty	 1.00 1.00 1.00 1.00 1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00 1.00 1.00 1.00
Lily, very stony----	20	Very limited Too steep for surface application Too steep for sprinkler application Too acid Droughty Depth to bedrock	 1.00 1.00 1.00 1.00 0.74 0.29	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	 1.00 1.00 1.00 1.00  
18A: Derroc-----	85	Very limited Filtering capacity Flooding Cobble content Droughty	 1.00 1.00 1.00 1.00 0.08	Very limited Seepage Flooding Cobble content	 1.00 1.00 0.82  

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
19C: Edneytown-----	90	Very limited		Very limited	
		Too steep for	1.00	Seepage	1.00
		surface		Too acid	1.00
		application	1.00	Too steep for	0.94
		Too acid		surface	
		Too steep for	0.60	application	
		sprinkler			
		application			
19D: Edneytown-----	90	Very limited		Very limited	
		Too steep for	1.00	Seepage	1.00
		surface		Too steep for	1.00
		application	1.00	surface	
		Too steep for		application	
		sprinkler		Too acid	1.00
		application			
		Too acid	1.00		
20C: Edneytown, very stony-----	60	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Too steep for	1.00	Too acid	1.00
		surface		Too steep for	0.94
		application		surface	
		Too steep for	0.60	application	
		sprinkler			
		application			
Peaks, very stony---	35	Very limited		Very limited	
		Filtering	1.00	Seepage	1.00
		capacity		Depth to bedrock	1.00
		Droughty	1.00	Too acid	1.00
		Too acid	1.00	Too steep for	0.94
		Too steep for	1.00	surface	
		surface		application	
		application			
		Depth to bedrock	0.95		
20E: Edneytown, very stony-----	60	Very limited		Very limited	
		Too steep for	1.00	Seepage	1.00
		surface		Too steep for	1.00
		application		surface	
		Too steep for	1.00	application	
		sprinkler		Too acid	1.00
		application			
		Too acid	1.00		



# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
20E: Peaks, very stony---	35	Very limited Filtering capacity Droughty Too steep for surface application Too steep for sprinkler application Too acid	 1.00 1.00 1.00 1.00 1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	 1.00 1.00 1.00  100
20F: Edneytown, very stony-----	60	Very limited Too steep for surface application Too steep for sprinkler application Too acid	 1.00 1.00 1.00 1.00	Very limited Seepage Too steep for surface application Too acid	 1.00 1.00 1.00
Peaks, very stony---	35	Very limited Filtering capacity Droughty Too steep for surface application Too steep for sprinkler application Too acid	 1.00 1.00 1.00 1.00 1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	 1.00 1.00 1.00  1.00
21B: Escatawba-----	80	Very limited Too acid Depth to saturated zone Slow water movement Too steep for surface application	 1.00 0.86 0.37 0.32	Very limited Seepage Too acid Depth to saturated zone	 1.00 1.00 0.86
21C: Escatawba-----	80	Very limited Too steep for surface application Too acid Depth to saturated zone Too steep for sprinkler application Slow water movement	 1.00 1.00 0.86 0.60 0.37	Very limited Seepage Too acid Too steep for surface application Depth to saturated zone	 1.00 1.00 0.94 0.86 0.94

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
22B: Frederick-----	85	Somewhat limited Too acid Too steep for surface application	 0.42 0.32	Very limited Seepage Too acid	 1.00 0.42
22C: Frederick-----	80	Very limited Too steep for surface application Too steep for sprinkler application Too acid	 1.00 0.60 0.42	Very limited Seepage Too steep for surface application Too acid	 1.00 0.94 0.42
22D: Frederick-----	80	Very limited Too steep for surface application Too steep for sprinkler application Too acid	 1.00 1.00 0.42	Very limited Seepage Too steep for surface application Too acid	 1.00 1.00 0.42
23E: Frederick-----	65	Very limited Too steep for surface application Too steep for sprinkler application Too acid	 1.00 1.00 0.42	Very limited Seepage Too steep for surface application Too acid	 1.00 1.00 0.42
Caneyville-----	30	Very limited Too steep for surface application Too steep for sprinkler application Droughty Depth to bedrock Too acid	 1.00 1.00 0.94 0.84 0.07	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	 1.00 1.00 1.00 0.07
24C: Frederick, very rocky-----	45	Very limited Too steep for surface application Too acid Too steep for sprinkler application	 1.00 0.42 0.22	Very limited Seepage Too steep for surface application Too acid	 1.00 0.50 0.50 0.42

# Soil Survey of Rockbridge County, Virginia

Table 7.—Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
24C: Caneyville, very rocky-----	35	Very limited Too steep for surface application Droughty Depth to bedrock Too steep for sprinkler application Too acid	 1.00  0.94 0.84 0.22  0.07	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	 1.00 1.00 0.50   0.07
24E: Frederick, very rocky-----	40	Very limited Too steep for surface application Too steep for sprinkler application Too acid	 1.00  1.00  0.42	Very limited Seepage Too steep for surface application Too acid	 1.00 1.00   0.42
Caneyville, very rocky-----	38	Very limited Too steep for surface application Too steep for sprinkler application Droughty Depth to bedrock Too acid	 1.00  1.00  0.94 0.84 0.07	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Too steep for	 1.00 1.00 1.00   0.07
25C: Frederick-----	60	Very limited Too steep for surface application Too acid Too steep for sprinkler application	 1.00  0.91 0.60	Very limited Seepage Too steep for surface application Too acid	 1.00 0.94   0.91
Watahala-----	30	Very limited Too steep for surface application Too acid Too steep for sprinkler application	 1.00  1.00 0.60	Very limited Seepage Too acid Too steep for surface application	 1.00 1.00 0.94

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
25D:					
Frederick-----	45	Very limited		Very limited	
		Too steep for	1.00	Seepage	1.00
		surface		Too steep for	1.00
		application	1.00	surface	
		Too steep for		application	
		sprinkler		Too acid	0.91
		application			
		Too acid	0.91		
Watahala-----	35	Very limited		Very limited	
		Too steep for	1.00	Seepage	1.00
		surface		Too steep for	1.00
		application		surface	
		Too steep for	1.00	application	
		sprinkler		Too acid	1.00
		application			
		Too acid	1.00		
25E:					
Frederick-----	50	Very limited		Very limited	
		Too steep for	1.00	Seepage	1.00
		surface		Too steep for	1.00
		application		surface	
		Too steep for	1.00	application	
		sprinkler		Too acid	0.91
		application			
		Too acid	0.91		
Watahala-----	40	Very limited		Very limited	
		Too steep for	1.00	Seepage	1.00
		surface		Too steep for	
		application		surface	
		Too steep for	1.00	application	
		sprinkler		Too acid	1.00
		application			
		Too acid	1.00		
26A:					
Gladehill-----	85	Somewhat limited		Very limited	
		Flooding	0.60	Seepage	1.00
		Too acid	0.07	Flooding	1.00
				Too acid	0.07
27B:					
Groseclose-----	80	Somewhat limited		Very limited	
		Too acid	0.96	Seepage	1.00
		Slow water	0.37	Too acid	0.96
		movement			
		Too steep for	0.32		
		surface			
		application			

# Soil Survey of Rockbridge County, Virginia

Table 7.—Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
27C: Groseclose-----	80	Very limited Too steep for surface application Too acid Too steep for sprinkler application Slow water movement	 1.00  0.96 0.60  0.37	Very limited Seepage Too acid Too steep for surface application	 1.00 0.96 0.94
27D: Groseclose-----	80	Very limited Too steep for surface application Too steep for sprinkler application Too acid Slow water movement	 1.00  1.00  0.96 0.37	Very limited Seepage Too steep for surface application Too acid	 1.00 1.00  0.96
28E: Groseclose-----	50	Very limited Too steep for surface application Too steep for sprinkler application Too acid Slow water movement	 1.00  1.00  0.96 0.37	Very limited Seepage Too steep for surface application Too acid	 1.00 1.00  0.96
Needmore-----	40	Very limited Too steep for surface application Too steep for sprinkler application Droughty Depth to bedrock Too acid	 1.00  1.00  0.52 0.20 0.07	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	 1.00 1.00 1.00  0.07
29C: Groseclose-----	35	Somewhat limited Too acid Too steep for surface application Slow water movement Too steep for sprinkler application	 0.96 0.92  0.37 0.02	Very limited Seepage Too acid Too steep for surface application	 1.00 0.96 0.06

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
29C: Needmore-----	30	Very limited Too steep for surface application Droughty Too steep for sprinkler application Depth to bedrock Too acid	 1.00  0.52 0.22  0.20 0.07	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	 1.00 1.00 0.50  0.07
Urban land-----	25	Not rated		Not rated	
30A: Holly-----	50	Very limited Ponding Depth to saturated zone Too acid Flooding	 1.00 1.00  0.42 0.60	Very limited Seepage Ponding Depth to saturated zone Flooding Too acid	 1.00 1.00 1.00  1.00 0.42
Orrville-----	45	Very limited Ponding Depth to saturated zone Flooding	 1.00 1.00  0.60	Very limited Seepage Ponding Depth to saturated zone Flooding	 1.00 1.00 1.00 1.00
31A: Ingledove-----	85	Somewhat limited Too acid	 0.31	Very limited Seepage Flooding Too acid	 1.00 0.40 0.31
32A: Irongate-----	85	Very limited Depth to saturated zone Flooding Too acid	 1.00 0.60 0.42	Very limited Seepage Flooding Depth to saturated zone Too acid	 1.00 1.00 1.00 0.42
33C: Litz-----	35	Very limited Too steep for surface application Too acid Droughty Too steep for sprinkler application Depth to bedrock	 1.00  1.00 0.99 0.60  0.29	Very limited Seepage Depth to bedrock Too acid Too steep for surface application Cobble content	 1.00 1.00 1.00 0.94  0.20



# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
33C: Chiswell-----	30	Very limited Depth to bedrock Droughty Too steep for surface application Too acid Too steep for sprinkler application	 1.00 1.00 1.00  1.00 0.60	Very limited Seepage Depth to bedrock Too acid Too steep for surface application Cobble content	 1.00 1.00 1.00 0.94  0.03
Groseclose-----	20	Very limited Too steep for surface application Too acid Too steep for sprinkler application Slow water movement	 1.00  0.96 0.60  0.37	Very limited Seepage Too acid Too steep for surface application	 1.00 0.96 0.94
33E: Litz-----	35	Very limited Too steep for surface application Too steep for sprinkler application Too acid Droughty Depth to bedrock	 1.00  1.00  1.00 0.99 0.29	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 0.20
Chiswell-----	25	Very limited Depth to bedrock Droughty Too steep for surface application Too steep for sprinkler application Too acid	 1.00 1.00 1.00  1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 0.03
Groseclose-----	25	Very limited Too steep for surface application Too steep for sprinkler application Too acid Slow water movement	 1.00  1.00  0.96 0.37	Very limited Seepage Too steep for surface application Too acid	 1.00 1.00  0.96

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
33F:					
Litz-----	35	Very limited		Very limited	
		Too steep for	1.00	Seepage	1.00
		surface		Depth to bedrock	1.00
		application		Too steep for	1.00
		Too steep for	1.00	surface	
		sprinkler		application	
		application		Too acid	1.00
		Too acid	1.00	Cobble content	0.20
		Droughty	0.99		
		Depth to bedrock	0.29		
Chiswell-----	30	Very limited		Very limited	
		Depth to bedrock	1.00	Seepage	1.00
		Droughty	1.00	Depth to bedrock	1.00
		Too steep for	1.00	Too steep for	1.00
		surface		surface	
		application		application	
		Too steep for	1.00	Too acid	1.00
		sprinkler		Cobble content	0.03
		application			
		Too acid	1.00		
Groseclose-----	20	Very limited		Very limited	
		Too steep for	1.00	Seepage	1.00
		surface		Too steep for	1.00
		application		surface	
		Too steep for	1.00	application	
		sprinkler		Too acid	0.96
		application			
		Too acid	0.96		
		Slow water	0.37		
		movement			
34C:					
Litz, very stony----	55	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Too steep for	1.00	Depth to bedrock	1.00
		surface		Too acid	1.00
		application		Too steep for	0.50
		Droughty	0.99	surface	
		Depth to bedrock	0.29	application	
		Too steep for	0.22	Cobble content	0.20
		sprinkler			
		application			
Needmore, very stony-----	35	Very limited		Very limited	
		Too steep for	1.00	Seepage	1.00
		surface		Depth to bedrock	1.00
		application		Too steep for	
		Droughty	0.52	surface	
		Too steep for	0.22	application	
		sprinkler		Too acid	0.07
		application			
		Depth to bedrock	0.20		
		Too acid	0.07		

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
34E: Litz, very stony----	55	Very limited Too steep for surface application Too steep for sprinkler application Too acid Droughty Depth to bedrock	 1.00  1.00  1.00 0.99 0.29	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 0.20
Needmore, very stony-----	35	Very limited Too steep for surface application Too steep for sprinkler application Droughty Depth to bedrock Too acid	 1.00  1.00  0.52 0.20 0.07	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	 1.00 1.00 1.00  0.07
34F: Litz, very stony----	55	Very limited Too steep for surface application Too steep for sprinkler application Too acid Droughty Depth to bedrock	 1.00  1.00  1.00 0.99 0.29	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 0.20
Needmore, very stony-----	35	Very limited Too steep for surface application Too steep for sprinkler application Droughty Depth to bedrock Too acid	 1.00  1.00  0.52 0.20 0.07	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	 1.00 1.00 1.00  0.07
35C: Lodi-----	40	Very limited Too steep for surface application Too acid Too steep for sprinkler application	 1.00  1.00 0.60	Very limited Seepage Too acid Too steep for surface application	 1.00 1.00 0.94

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
35C: McClung-----	35	Very limited Too steep for surface application Too acid Too steep for sprinkler application	1.00  1.00 0.60	Very limited Seepage Too acid Too steep for surface application	1.00 1.00 0.94
Lily-----	20	Very limited Too steep for surface application Too acid Droughty Too steep for sprinkler application Depth to bedrock	1.00  1.00 0.74 0.60 0.29	Very limited Seepage Depth to bedrock Too acid Too steep for surface application	1.00 1.00 1.00 0.94
35E: Lodi-----	35	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00  1.00 1.00	Very limited Seepage Too steep for surface application Too acid	1.00 1.00 1.00
McClung-----	30	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00  1.00 1.00	Very limited Seepage Too steep for surface application Too acid	1.00 1.00 1.00
Lily-----	25	Very limited Too steep for surface application Too steep for sprinkler application Too acid Droughty Depth to bedrock	1.00  1.00 1.00 0.74 0.29	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	1.00 1.00 1.00 1.00

# Soil Survey of Rockbridge County, Virginia

Table 7.—Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
36C: Lostcove, extremely stony-----	80	Very limited Cobble content Too acid Too steep for surface application Too steep for sprinkler application Droughty	 1.00 1.00 1.00  0.60 0.02	Very limited Seepage Too acid Stone content Cobble content Too steep for surface application	 1.00 1.00 1.00 1.00 0.94  
37E: Lostcove, very stony-----	80	Very limited Too steep for surface application Too steep for sprinkler application Cobble content Too acid Droughty	 1.00  1.00  1.00 1.00 1.00 0.02	Very limited Seepage Too steep for surface application Too acid Stone content Cobble content	 1.00 1.00  1.00 1.00 1.00  
37F: Lostcove, very stony-----	80	Very limited Too steep for surface application Too steep for sprinkler application Cobble content Too acid Droughty	 1.00  1.00  1.00 1.00 1.00 0.02	Very limited Seepage Too steep for surface application Too acid Stone content Cobble content	 1.00 1.00  1.00 1.00 1.00  
38E: Marbleyard, extremely stony----	70	Very limited Slow water movement Too steep for surface application Too steep for sprinkler application Droughty Too acid	 1.00  1.00  1.00 1.00 1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 0.80  
Rock outcrop-----	15	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
39F: Marbleyard, extremely stony----	45	Very limited Slow water movement Too steep for surface application Too steep for sprinkler application Droughty Too acid	 1.00  1.00  1.00  1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 0.80
Sherando, extremely stony-----	30	Very limited Filtering capacity Too steep for surface application Too steep for sprinkler application Too acid Droughty	 1.00  1.00  1.00  1.00 0.95	Very limited Seepage Too steep for surface application Too acid	 1.00 1.00  1.00
Rock outcrop-----	20	Not rated		Not rated	
39G: Marbleyard, extremely stony----	45	Very limited Slow water movement Too steep for surface application Too steep for sprinkler application Droughty Too acid	 1.00  1.00  1.00  1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 0.80
Sherando, extremely stony-----	30	Very limited Filtering capacity Too steep for surface application Too steep for sprinkler application Too acid Droughty	 1.00  1.00  1.00  1.00 0.95	Very limited Seepage Too steep for surface application Too acid	 1.00 1.00  1.00
Rock outcrop-----	20	Not rated		Not rated	



# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
40A: Maurertown-----	50	Very limited Slow water movement Ponding Depth to saturated zone Too acid	 1.00 1.00 1.00 1.00 0.07	Very limited Ponding Depth to saturated zone Seepage Flooding Too acid	 1.00 1.00 0.62 0.40 0.07
Toms-----	45	Very limited Ponding Depth to saturated zone Slow water movement	 1.00 1.00 1.00	Very limited Seepage Ponding Depth to saturated zone Flooding	 1.00 1.00 1.00 1.00 0.40
41C: McCamy, very stony-----	85	Very limited Too acid Too steep for surface application Droughty Depth to bedrock Too steep for sprinkler application	 1.00 1.00  0.98 0.35 0.22	Very limited Seepage Depth to bedrock Too acid Too steep for surface application	 1.00 1.00 1.00 0.50
42F: McClung, very stony-----	40	Very limited Too steep for surface application Too steep for sprinkler application Too acid	 1.00  1.00  1.00	Very limited Seepage Too steep for surface application Too acid	 1.00 1.00 1.00
Caneyville, very stony-----	30	Very limited Too steep for surface application Too steep for sprinkler application Droughty Depth to bedrock Too acid	 1.00  1.00  0.94 0.84 0.07	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Too steep for	 1.00 1.00 1.00 0.07

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
42F: Dekalb, very stony-----	25	Very limited Filtering capacity Too steep for surface application Too steep for sprinkler application Too acid Droughty	 1.00  1.00  1.00  1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 1.00
43C: Needmore-----	60	Very limited Too steep for surface application Droughty Too steep for sprinkler application Depth to bedrock Too acid	 1.00   0.52 0.22  0.20 0.07	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	 1.00 1.00 0.50   0.07
Opequon-----	30	Very limited Depth to bedrock Droughty Too steep for surface application Too steep for sprinkler application	 1.00 1.00 1.00  0.22	Very limited Depth to bedrock Seepage Too steep for surface application	 1.00 1.00 0.50
43E: Needmore-----	55	Very limited Too steep for surface application Too steep for sprinkler application Droughty Depth to bedrock Too acid	 1.00  1.00  0.52 0.20 0.07	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	 1.00 1.00 1.00  0.07
Opequon-----	35	Very limited Depth to bedrock Droughty Too steep for surface application Too steep for sprinkler application	 1.00 1.00 1.00  1.00	Very limited Depth to bedrock Too steep for surface application Seepage	 1.00 1.00  1.00

# Soil Survey of Rockbridge County, Virginia

Table 7.—Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
43F: Needmore-----	50	Very limited Too steep for surface application Too steep for sprinkler application Droughty Depth to bedrock Too acid	 1.00  1.00  0.52 0.20 0.07	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	 1.00 1.00 1.00  0.07
Opequon-----	40	Very limited Depth to bedrock Droughty Too steep for surface application Too steep for sprinkler application	 1.00 1.00 1.00  1.00	Very limited Depth to bedrock Too steep for surface application Seepage	 1.00 1.00  1.00
44E: Needmore-----	70	Very limited Too steep for surface application Too steep for sprinkler application Droughty Depth to bedrock Too acid	 1.00  1.00  0.52 0.20 0.07	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	 1.00 1.00 1.00  0.07
Urban land-----	25	Not rated		Not rated	
45B: Nicelytown-----	80	Very limited Depth to saturated zone Too acid Slow water movement Too steep for surface application	 1.00 1.00 0.50 0.32	Very limited Seepage Depth to saturated zone Too acid	 1.00 1.00 1.00
46B: Nicelytown-----	50	Very limited Depth to saturated zone Too acid Slow water movement Too steep for surface application	 1.00 1.00 0.50 0.32	Very limited Seepage Depth to saturated zone Too acid	 1.00 1.00 1.00
Urban land-----	45	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
47C: Oriskany, extremely stony-----	65	Very limited Too steep for surface application Too acid Too steep for sprinkler application Cobble content	 1.00  0.96 0.60  0.18	Very limited Seepage Cobble content Too acid Too steep for surface application	 1.00 0.97 0.96 0.94
Laidig, extremely stony-----	25	Very limited Too acid Too steep for surface application Depth to saturated zone Too steep for sprinkler application Droughty	 1.00 1.00  0.68 0.60  0.24	Very limited Seepage Depth to cemented pan Too acid Too steep for surface application Depth to saturated zone	 1.00 1.00  1.00 0.94  0.68
47E: Oriskany, extremely stony-----	60	Very limited Too steep for surface application Too steep for sprinkler application Too acid Cobble content	 1.00  1.00  0.96 0.18	Very limited Seepage Too steep for surface application Cobble content Too acid	 1.00 1.00  0.97 0.96
Laidig, extremely stony-----	30	Very limited Too steep for surface application Too steep for sprinkler application Too acid Depth to saturated zone Droughty	 1.00  1.00  1.00 0.68 0.24	Very limited Seepage Depth to cemented pan Too steep for surface application Depth to saturated zone	 1.00 1.00  1.00 0.68
48F: Oriskany, extremely stony-----	80	Very limited Too steep for surface application Too steep for sprinkler application Too acid Cobble content	 1.00  1.00  0.96 0.18	Very limited Seepage Too steep for surface application Cobble content Too acid	 1.00 1.00  0.97 0.96

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
49C: Oriskany, extremely stony-----	55	Very limited Too steep for surface application Too acid Too steep for sprinkler application Cobble content	 1.00  0.96 0.60  0.18	Very limited Seepage Cobble content Too acid Too steep for surface application	 1.00 0.97 0.96 0.94
Murrill, extremely stony-----	35	Very limited Cobble content Too acid Too steep for surface application Too steep for sprinkler application	 1.00 1.00 1.00  0.60	Very limited Seepage Too acid Too steep for surface application	 1.00 1.00 0.94
49E: Oriskany, extremely stony-----	55	Very limited Too steep for surface application Too steep for sprinkler application Too acid Cobble content	 1.00  1.00  0.96 0.18	Very limited Seepage Too steep for surface application Cobble content Too acid	 1.00 1.00  0.97 0.96
Murrill, extremely stony-----	35	Very limited Too steep for surface application Too steep for sprinkler application Cobble content Too acid	 1.00  1.00  1.00 1.00	Very limited Seepage Too steep for surface application Too acid	 1.00 1.00  1.00
49F: Oriskany, extremely stony-----	65	Very limited Too steep for surface application Too steep for sprinkler application Too acid Cobble content	 1.00  1.00  0.96 0.18	Very limited Seepage Too steep for surface application Cobble content Too acid	 1.00 1.00  0.97 0.96

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
49F: Murrill, extremely stony-----	25	Very limited Too steep for surface application Too steep for sprinkler application Cobble content Too acid	1.00  1.00  1.00 1.00	Very limited Seepage Too steep for surface application Too acid	1.00 1.00 1.00
50E: Peaks, very rocky---	55	Very limited Filtering capacity Droughty Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 1.00 1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	1.00 1.00 1.00 1.00
Edneytown, very rocky-----	40	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00  1.00 1.00	Very limited Seepage Too steep for surface application Too acid	1.00 1.00 1.00
50F: Peaks, very rocky---	55	Very limited Filtering capacity Droughty Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 1.00 1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	1.00 1.00 1.00 1.00
Edneytown, very rocky-----	40	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00  1.00 1.00	Very limited Seepage Too steep for surface application Too acid	1.00 1.00 1.00

# Soil Survey of Rockbridge County, Virginia

Table 7.—Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation	Value	Overland flow of wastewater	Value
		Rating class and limiting features		Rating class and limiting features	
51A: Philo-----	75	Very limited Depth to saturated zone Too acid Flooding	1.00 0.99 0.60	Very limited Seepage Depth to saturated zone Flooding Too acid	1.00 1.00 1.00 0.99
52C: Pignut, very stony-----	50	Very limited Too steep for surface application Too acid Too steep for sprinkler application Depth to bedrock Droughty	1.00 0.96 0.22 0.03 0.03	Very limited Seepage Depth to bedrock Too acid Too steep for surface application	1.00 1.00 0.96 0.50
Myersville, very stony-----	40	Very limited Too steep for surface application Too acid Too steep for sprinkler application	1.00 0.91 0.22	Very limited Seepage Too acid Too steep for surface application Depth to bedrock	1.00 0.91 0.50 0.42
53E: Pignut, very stony-----	90	Very limited Too steep for surface application Too steep for sprinkler application Too acid Depth to bedrock Droughty	1.00 1.00 0.96 0.03 0.03	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	1.00 1.00 1.00 0.96
53F: Pignut, very stony-----	90	Very limited Too steep for surface application Too steep for sprinkler application Too acid Depth to bedrock Droughty	1.00 1.00 0.96 0.03 0.03	Very limited Seepage Depth to bedrock Too steep for surface application Too acid	1.00 1.00 1.00 0.96
54: Pits-----	50	Not rated		Not rated	
Dumps-----	45	Not rated		Not rated	



# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
55A: Pope-----	90	Somewhat limited Too acid Flooding	 0.42 0.60	Very limited Seepage Flooding Too acid	 1.00 1.00 0.42
56G: Rock outcrop-----	60	Not rated		Not rated	
Opequon-----	25	Very limited Depth to bedrock Droughty Too steep for surface application Too steep for sprinkler application	 1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Seepage	 1.00 1.00 1.00
57A: Sensabaugh-----	40	Somewhat limited Too acid Flooding	 0.01 0.60	Very limited Seepage Flooding Too acid	 1.00 1.00 0.01
Lobdell-----	30	Very limited Depth to saturated zone Flooding	 1.00 0.60	Very limited Seepage Depth to saturated zone Flooding	 1.00 1.00 1.00
Derroc-----	20	Very limited Filtering capacity Cobble content Flooding Droughty	 1.00 1.00 0.60 0.08	Very limited Seepage Flooding Cobble content	 1.00 1.00 0.82
58B: Shottower-----	90	Somewhat limited Too steep for surface application Low adsorption Too acid	 0.32 0.29 0.21	Very limited Seepage Low adsorption Too acid	 1.00 0.29 0.21
58C: Shottower-----	90	Very limited Too steep for surface application Too steep for sprinkler application Low adsorption Too acid	 1.00 0.60 0.29 0.21	Very limited Seepage Too steep for surface application Low adsorption Too acid	 1.00 0.94 0.29 0.21

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
58D: Shottower-----	85	Very limited Too steep for surface application Too steep for sprinkler application Low adsorption Too acid	 1.00  1.00  0.29 0.21	Very limited Seepage Too steep for surface application Low adsorption Too acid	 1.00 1.00  0.29 0.21
59E: Shottower-----	85	Very limited Too steep for surface application Too steep for sprinkler application Low adsorption Too acid	 1.00  1.00  0.38 0.21	Very limited Seepage Too steep for surface application Low adsorption Too acid	 1.00 1.00  0.38 0.21
60C: Shottower-----	50	Somewhat limited Too steep for surface application Low adsorption Too acid	 0.32  0.29 0.21	Very limited Seepage Low adsorption Too acid	 1.00 0.29 0.21
Urban land-----	45	Not rated		Not rated	
61B: Slabtown-----	80	Somewhat limited Depth to saturated zone Slow water movement Too steep for surface application Too acid	 0.95 0.37 0.32 0.07	Very limited Seepage Depth to saturated zone Too acid	 1.00 0.95 0.07
61C: Slabtown-----	80	Very limited Too steep for surface Depth to saturated zone application Too steep for sprinkler application Slow water movement Too acid	 1.00 0.95 0.60 0.37 0.07	Very limited Seepage Depth to saturated zone Too steep for surface application Too acid	 1.00 0.95 0.94 0.07
62: Slickens-----	100	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 7.—Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
63E: Stumptown, extremely stony----	40	Very limited Too steep for surface application Too steep for sprinkler application Too acid Droughty Depth to bedrock	 1.00  1.00  1.00 1.00 1.00 0.20	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Stone content	 1.00 1.00 1.00  1.00 1.00
Marbleyard, extremely stony----	35	Very limited Slow water movement Too steep for surface application Too steep for sprinkler application Droughty Too acid	 1.00  1.00  1.00  1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 0.80
Rock outcrop-----	15	Not rated		Not rated	
63F: Stumptown, extremely stony----	40	Very limited Too steep for surface application Too steep for sprinkler application Too acid Droughty Depth to bedrock	 1.00  1.00  1.00 1.00 1.00 0.20	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Stone content	 1.00 1.00 1.00  1.00 1.00
Marbleyard, extremely stony----	35	Very limited Slow water movement Too steep for surface application Too steep for sprinkler application Droughty Too acid	 1.00  1.00  1.00  1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 0.80
Rock outcrop-----	15	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
63G: Stumptown, extremely stony----	40	Very limited Too steep for surface application Too steep for sprinkler application Too acid Droughty Depth to bedrock	1.00  1.00  1.00 1.00 1.00 0.20	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Stone content	1.00 1.00 1.00 1.00 1.00 1.00
Marbleyard, extremely stony----	35	Very limited Slow water movement Too steep for surface application Too steep for sprinkler application Droughty Too acid	1.00  1.00  1.00  1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	1.00 1.00 1.00 1.00 1.00 0.80
Rock outcrop-----	15	Not rated		Not rated	
64E: Stumptown, very stony-----	50	Very limited Too steep for surface application Too steep for sprinkler application Too acid Droughty Depth to bedrock	1.00  1.00  1.00 1.00 1.00 0.20	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Stone content	1.00 1.00 1.00 1.00 1.00 1.00
Sylco, very stony---	45	Very limited Too steep for surface application Too steep for sprinkler application Too acid Droughty Depth to bedrock	1.00  1.00  1.00 1.00 1.00 0.54	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	1.00 1.00 1.00 1.00 1.00 0.96

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
64F: Stumptown, very stony-----	50	Very limited Too steep for surface application Too steep for sprinkler application Too acid Droughty Depth to bedrock	 1.00  1.00  1.00 1.00 1.00 0.20	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Stone content	 1.00 1.00 1.00  1.00 1.00
Sylco, very stony---	35	Very limited Too steep for surface application Too steep for sprinkler application Too acid Droughty Depth to bedrock	 1.00  1.00  1.00 1.00 1.00 0.54	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 0.96
65E: Sylco, very rocky---	45	Very limited Too steep for surface application Too steep for sprinkler application Too acid Droughty Depth to bedrock	 1.00  1.00  1.00 1.00 1.00 0.54	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 0.96
Marbleyard, very rocky-----	40	Very limited Slow water movement Too steep for surface application Too steep for sprinkler application Droughty Too acid	 1.00  1.00  1.00 1.00 1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 0.80
65F: Sylco, very rocky---	50	Very limited Too steep for surface application Too steep for sprinkler application Too acid Droughty Depth to bedrock	 1.00  1.00  1.00 1.00 1.00 0.54	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 0.96

# Soil Survey of Rockbridge County, Virginia

Table 7.—Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
65F: Marbleyard, very rocky-----	45	Very limited Slow water movement Too steep for surface application Too steep for sprinkler application Droughty Too acid	 1.00  1.00  1.00  1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 0.80
65G: Sylco, very rocky---	50	Very limited Too steep for surface application Too steep for sprinkler application Too acid Droughty Depth to bedrock	 1.00  1.00  1.00 1.00 1.00 0.54	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 0.96
Marbleyard, very rocky-----	35	Very limited Slow water movement Too steep for surface application Too steep for sprinkler application Droughty Too acid	 1.00  1.00  1.00  1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 0.80
66C: Thunder, very bouldery-----	50	Very limited Too acid Too steep for surface application Cobble content Too steep for sprinkler application Large stones on the surface	 1.00 1.00  0.87 0.60  0.18	Very limited Seepage Too acid Stone content Cobble content Too steep for surface application	 1.00 1.00 1.00 0.97 0.94
Saunook, very bouldery-----	30	Very limited Too acid Too steep for surface application Too steep for sprinkler application	 1.00 1.00  0.60	Very limited Seepage Too acid Too steep for surface application	 1.00 1.00 0.94

# Soil Survey of Rockbridge County, Virginia

Table 7.—Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
66E: Thunder, very bouldery-----	50	Very limited Too steep for surface application Too steep for sprinkler application Too acid Cobble content Large stones on the surface	 1.00  1.00  1.00 0.87 0.18	Very limited Seepage Too steep for surface application Too acid Stone content Cobble content	 1.00 1.00  1.00 1.00 0.97
Saunook, very bouldery-----	30	Very limited Too steep for surface application Too steep for sprinkler application Too acid	 1.00  1.00  1.00	Very limited Seepage Too steep for surface application Too acid	 1.00 1.00  1.00
66F: Thunder, very bouldery-----	50	Very limited Too steep for surface application Too steep for sprinkler application Too acid Cobble content Large stones on the surface	 1.00  1.00  1.00 0.87 0.18	Very limited Seepage Too steep for surface application Too acid Stone content Cobble content	 1.00 1.00  1.00 1.00 0.97
Saunook, very bouldery-----	30	Very limited Too steep for surface application Too steep for sprinkler application Too acid	 1.00  1.00  1.00	Very limited Seepage Too steep for surface application Too acid	 1.00 1.00  1.00
67C: Tumbling-----	50	Very limited Too steep for surface application Too steep for sprinkler application Too acid Low adsorption	 1.00  0.60  0.42 0.31	Very limited Seepage Too steep for surface application Too acid Low adsorption	 1.00 0.94  0.42 0.31



# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
67C: Vanella-----	40	Very limited Too steep for surface application Too acid Too steep for sprinkler application	1.00 0.95  0.60	Very limited Seepage Too steep for surface application Too acid	1.00 0.94  0.85
67D: Tumbling-----	50	Very limited Too steep for surface application Too steep for sprinkler application Too acid Low adsorption	1.00  1.00  0.42 0.31	Very limited Seepage Too steep for surface application Too acid Low adsorption	1.00 1.00  0.42 0.31
Vanella-----	40	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00  1.00  0.85	Very limited Seepage Too steep for surface application Too acid	1.00 1.00  0.85
67E: Tumbling-----	50	Very limited Too steep for surface application Too steep for sprinkler application Too acid Low adsorption	1.00  1.00  0.42 0.31	Very limited Seepage Too steep for surface application Low adsorption	1.00 1.00  0.42 0.31
Vanella-----	40	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00  1.00  0.85	Very limited Seepage Too steep for surface application Too acid	1.00 1.00  0.85
68D: Tumbling-----	35	Very limited Too steep for surface application Too steep for sprinkler application Too acid Low adsorption	1.00  0.60  0.42 0.31	Very limited Seepage Too steep for surface application Too acid Low adsorption	1.00 0.94  0.42 0.31

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
68D: Vanella-----	30	Very limited Too steep for surface application Too acid Too steep for sprinkler application	1.00 0.85 0.60	Very limited Seepage Too steep for surface application Too acid	1.00 0.94 0.85
Urban land-----	25	Not rated		Not rated	
69A: Tygart-----	55	Very limited Ponding Depth to saturated zone Slow water movement Too acid	1.00 1.00 1.00 0.42	Very limited Seepage Ponding Depth to saturated zone Too acid	1.00 1.00 1.00 0.42
Purdy-----	40	Very limited Ponding Depth to saturated zone Slow water movement Too acid	1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Too acid Seepage Too level	1.00 1.00 1.00 0.62 0.50
70: Udorthents, refuse substratum-----	85	Not rated		Not rated	
71: Udorthents-----	50	Not rated		Not rated	
Urban land-----	45	Not rated		Not rated	
72C: Unaka, very stony---	60	Very limited Too acid Too steep for surface application Droughty Depth to bedrock Too steep for sprinkler application	1.00 1.00 0.93 0.71 0.40	Very limited Seepage Depth to bedrock Too acid Too steep for surface application	1.00 1.00 1.00 0.78
Plott, very stony---	30	Very limited Too acid Too steep for surface application Too steep for sprinkler application	1.00 1.00 0.40	Very limited Seepage Too acid Too steep for surface application	1.00 1.00 0.78

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
72E: Unaka, very stony---	65	Very limited		Very limited	
		Too steep for	1.00	Seepage	1.00
		surface		Depth to bedrock	1.00
		application		Too steep for	1.00
		Too steep for	1.00	surface	
		sprinkler		application	
		application		Too acid	1.00
		Too acid	1.00		
		Droughty	0.93		
		Depth to bedrock	0.71		
Plott, very stony---	30	Very limited		Very limited	
		Too steep for	1.00	Seepage	1.00
		surface		Too steep for	1.00
		application		surface	
		Too steep for	1.00	application	
		sprinkler		Too acid	1.00
		application			
		Too acid	1.00		
73C: Vanella, very stony-----	50	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Too steep for	1.00	Too acid	1.00
		surface		Too steep for	0.50
		application		surface	
		Cobble content	0.24	application	
		Too steep for	0.22		
		sprinkler			
		application			
Tumbling, very stony-----	40	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Too steep for	1.00	Too acid	1.00
		surface		Low adsorption	0.52
		application		Too steep for	0.50
		Low adsorption	0.52	surface	
		Too steep for	0.22	application	
		sprinkler			
		application			
73E: Vanella, very stony-----	50	Very limited		Very limited	
		Too steep for	1.00	Seepage	1.00
		surface		Too steep for	1.00
		application		surface	
		Too steep for	1.00	application	
		sprinkler		Too acid	1.00
		application			
		Too acid	1.00		
		Cobble content	0.24		

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
73E: Tumbling, very stony-----	40	Very limited Too steep for surface application Too steep for sprinkler application Too acid Low adsorption	 1.00  1.00  1.00 0.52	Very limited Seepage Too steep for surface application Too acid Low adsorption	 1.00 1.00  1.00 0.52
74C: Watahala, very stony-----	60	Very limited Too steep for surface application Too acid Too steep for sprinkler application Cobble content	 1.00  0.96 0.60 0.18	Very limited Seepage Too acid Too steep for surface application	 1.00 0.96 0.94
Frederick, very stony-----	30	Very limited Too steep for surface application Too acid Too steep for sprinkler application Cobble content	 1.00  1.00 0.60 0.32	Very limited Seepage Too acid Too steep for surface application	 1.00 1.00 0.94
74E: Watahala, very stony-----	50	Very limited Too steep for surface application Too steep for sprinkler application Too acid Cobble content	 1.00  1.00  0.96 0.18	Very limited Seepage Too steep for surface application Too acid	 1.00 1.00  0.96
Frederick, very stony-----	35	Very limited Too steep for surface application Too steep for sprinkler application Too acid Cobble content	 1.00  1.00  1.00 0.32	Very limited Seepage Too steep for surface application Too acid	 1.00 1.00  1.00

# Soil Survey of Rockbridge County, Virginia

Table 7.—Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
74F: Watahala, very stony-----	60	Very limited Too steep for surface application Too steep for sprinkler application Too acid Cobble content	 1.00  1.00  0.96 0.18	Very limited Seepage Too steep for surface application Too acid	 1.00 1.00  0.96
Frederick, very stony-----	20	Very limited Too steep for surface application Too steep for sprinkler application Too acid Cobble content	 1.00  1.00  1.00 0.32	Very limited Seepage Too steep for surface application Too acid	 1.00 1.00  
75E: Weikert-----	45	Very limited Depth to bedrock Droughty Too steep for surface application Too steep for sprinkler application Too acid	 1.00 1.00 1.00  1.00  1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 0.31
Berks-----	30	Very limited Too steep for surface application Too steep for sprinkler application Too acid Droughty Depth to bedrock	 1.00  1.00  1.00 0.77 0.46	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 0.12
Rough-----	20	Very limited Depth to bedrock Too acid Droughty Too steep for surface application Too steep for sprinkler application	 1.00 1.00 1.00 1.00  1.00	Very limited Seepage Depth to bedrock Too acid Too steep for surface application Cobble content	 1.00 1.00 1.00 1.00  0.33

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
75F: Weikert-----	45	Very limited Depth to bedrock Droughty Too steep for surface application Too steep for sprinkler application Too acid	 1.00 1.00 1.00  1.00  1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00  1.00 0.31
Berks-----	30	Very limited Too steep for surface application Too steep for sprinkler application Too acid Droughty Depth to bedrock	 1.00  1.00  1.00 1.00 0.77 0.46	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 0.12
Rough-----	15	Very limited Depth to bedrock Too acid Droughty Too steep for surface application Too steep for sprinkler application	 1.00 1.00 1.00 1.00  1.00	Very limited Seepage Depth to bedrock Too acid Too steep for surface application Cobble content	 1.00 1.00 1.00 1.00  0.33
76G: Weikert-----	35	Very limited Depth to bedrock Droughty Too steep for surface application Too steep for sprinkler application Too acid	 1.00 1.00 1.00  1.00  1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Too acid Cobble content	 1.00 1.00 1.00  1.00 0.31
Rough-----	30	Very limited Depth to bedrock Too acid Droughty Too steep for surface application Too steep for sprinkler application	 1.00 1.00 1.00 1.00  1.00	Very limited Seepage Depth to bedrock Too acid Too steep for surface a application Cobble content	 1.00 1.00 1.00 1.00  0.33
Rock outcrop-----	25	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 7.--Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
77C: Wintergreen-----	90	Very limited Too steep for surface application Too acid Too steep for sprinkler application	 1.00  1.00 0.60	Very limited Seepage Too acid Too steep for surface application	 1.00 1.00 0.94
77D: Wintergreen-----	90	Very limited Too steep for surface application Too steep for sprinkler application Too acid	 1.00  1.00  1.00	Very limited Seepage Too steep for surface application Too acid	 1.00 1.00  1.00
77E: Wintergreen-----	90	Very limited Too steep for surface application Too steep for sprinkler application Too acid	 1.00  1.00  1.00	Very limited Seepage Too steep for surface application Too acid	 1.00 1.00  1.00
78E: Wintergreen, very stony-----	85	Very limited Too steep for surface application Too steep for sprinkler application Too acid	 1.00  1.00  1.00	Very limited Seepage Too steep for surface application Too acid	 1.00 1.00  1.00
79A: Wolfgap-----	90	Not limited		Very limited Seepage Flooding	 1.00 0.40
80A: Wolfgap-----	35	Not limited		Very limited Seepage Flooding	 1.00 0.40
Derroc-----	30	Very limited Filtering capacity Cobble content Droughty	 1.00 1.00 0.08	Very limited Seepage Cobble content Flooding Flooding	 1.00 0.82 0.40
Urban land-----	25	Not rated		Not rated	
W: Water-----	100	Not rated		Not rated	



# Soil Survey of Rockbridge County, Virginia

Table 7.—Agricultural Waste Management, Part III

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater	Value	Slow rate treatment of wastewater	Value
		Rating class and limiting features		Rating class and limiting features	
1A: Alonzville, rarely flooded-----	80	Very limited Slow water movement	1.00	Somewhat limited Too acid	0.96
2B: Alonzville-----	80	Very limited Slow water movement Slope	1.00 0.12	Somewhat limited Too acid Too steep for surface application	0.96 0.32
3B: Alonzville-----	50	Very limited Slow water movement Slope	1.00 0.12	Somewhat limited Too acid Too steep for surface application	0.96 0.32
Urban land-----	45	Not rated		Not rated	
4C: Berks-----	50	Very limited Depth to bedrock Slope Slow water movement Cobble content Too acid	1.00 1.00 0.62 0.12 0.03	Very limited Depth to bedrock Too acid Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00 0.94
Weikert-----	40	Very limited Depth to bedrock Slope Slow water movement Cobble content Too acid	1.00 1.00 0.32 0.31 0.03	Very limited Depth to bedrock Too acid Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00 0.94
5A: Botetourt-----	90	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone	1.00
6A: Botetourt-----	50	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone	1.00

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
6A: Urban land-----	45	Not rated		Not rated	
7A: Buckton-----	55	Very limited Slow water movement Flooding	1.00  0.60	Somewhat limited Flooding	0.60
Weaver-----	30	Very limited Depth to saturated zone Slow water movement Flooding	1.00 1.00 0.60	Very limited Depth to saturated zone Flooding	1.00 0.60
8F: Caneyville-----	60	Very limited Slope Slow water movement Depth to bedrock	1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement Too acid	1.00 1.00 1.00 0.26 0.07
Frederick-----	20	Very limited Slope Slow water movement Too acid	1.00 1.00 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 0.42
Rock outcrop-----	15	Not rated		Not rated	
9C: Carbo, very rocky---	55	Very limited Slow water movement Depth to bedrock Slope	1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Slow water movement Too steep for sprinkler irrigation	1.00 1.00 0.96 0.50
Opequon, very rocky-----	30	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 0.50

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
9E: Carbo, very rocky---	50	Very limited Slope Slow water movement Depth to bedrock	 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement	 1.00 1.00  1.00  0.96
Opequon, very rocky-----	35	Very limited Slope Depth to bedrock Slow water movement	 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation	 1.00 1.00  1.00
10F: Carbo-----	55	Very limited Slope Slow water movement  Depth to bedrock	 1.00 1.00  1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement	 1.00 1.00  1.00  0.96
Opequon-----	25	Very limited Slope Depth to bedrock Slow water movement	 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation	 1.00 1.00  1.00
Rock outcrop-----	15	Not rated		Not rated	
11B: Cottonbend-----	85	Very limited Slow water movement Slope	 1.00 0.12	Somewhat limited Too steep for surface application Too acid	 0.32  0.07
11C: Cottonbend-----	85	Very limited Slope Slow water movement	 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  0.94  0.07

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
12A: Coursey, rarely flooded-----	80	Very limited Depth to saturated zone Slow water movement Too acid	1.00 1.00 0.31	Very limited Depth to saturated zone Too acid	1.00 0.96
13B: Coursey-----	80	Very limited Depth to saturated zone Slow water movement Too acid	1.00 1.00 0.31	Very limited Depth to saturated zone Too acid Too steep for surface application	1.00 0.96 0.08
14C: Dekalb, very stony-----	50	Very limited Depth to bedrock Cobble content Slope Too acid	1.00 1.00 1.00 0.14	Very limited Filtering capacity Depth to bedrock Too acid Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00 1.00 0.50
Lehew, very stony---	20	Very limited Depth to bedrock Cobble content Slope Too acid	1.00 1.00 1.00 0.14	Very limited Depth to bedrock Cobble content Too acid Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00 1.00 0.50
Berks, very stony---	15	Very limited Depth to bedrock Slope Slow water movement Cobble content Too acid	1.00 1.00 0.62 0.12 0.03	Very limited Depth to bedrock Too acid Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00 0.50

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
14E: Dekalb, very stony-----	50	Very limited Slope Depth to bedrock Cobble content Too acid	1.00 1.00 1.00 0.14	Very limited Filtering capacity Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lehew, very stony---	20	Very limited Slope Depth to bedrock Cobble content Too acid	1.00 1.00 1.00 0.14	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Cobble content Too acid	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Berks, very stony---	15	Very limited Slope Depth to bedrock Slow water movement Cobble content Too acid	1.00 1.00 0.62 0.12 0.03	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 1.00 1.00 1.00
14F: Dekalb, very stony-----	50	Very limited Slope Depth to bedrock Cobble content Too acid	1.00 1.00 1.00 0.14	Very limited Filtering capacity Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lehew, very stony---	20	Very limited Slope Depth to bedrock Cobble content Too acid	1.00 1.00 1.00 0.14	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Cobble content Too acid	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
14F: Berks, very stony---	15	Very limited Slope Depth to bedrock Slow water movement Cobble content Too acid	 1.00 1.00 0.62  0.12 0.03	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00 1.00    1.00  1.00
15E: DeKalb, extremely stony-----	50	Very limited Slope Depth to bedrock Cobble content Too acid	 1.00 1.00 1.00 0.14	Very limited Filtering capacity Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00 1.00  1.00  1.00 1.00
Lehew, extremely stony-----	30	Very limited Slope Depth to bedrock Cobble content Too acid	 1.00 1.00 1.00 0.14	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Cobble content Too acid	 1.00 1.00  1.00  1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	
15F: DeKalb, extremely stony-----	50	Very limited Slope Depth to bedrock Cobble content Too acid	 1.00 1.00 1.00 0.14	Very limited Filtering capacity Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00 1.00  1.00  1.00 1.00

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
15F: Lehew, extremely stony-----	20	Very limited Slope Depth to bedrock Cobble content Too acid	 1.00 1.00 1.00 0.14	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Cobble content Too acid	 1.00 1.00  1.00  1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	
16C: Dekalb, very stony-----	60	Very limited Depth to bedrock Cobble content Slope Too acid	 1.00 1.00 1.00 0.14	Very limited Filtering capacity Depth to bedrock Too acid Too steep for surface application Too steep for sprinkler irrigation	 1.00  1.00 1.00 1.00  0.94
Lily, very stony----	30	Very limited Depth to bedrock Slope Slow water movement Too acid	 1.00 1.00 0.62 0.14	Very limited Depth to bedrock Too acid Too steep for surface application Too steep for sprinkler irrigation	 1.00 1.00 1.00  0.94
16E: Dekalb, very stony-----	50	Very limited Slope Depth to bedrock Cobble content Too acid	 1.00 1.00 1.00 0.14	Very limited Filtering capacity Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00 1.00  1.00 1.00 1.00
Lily, very stony----	40	Very limited Slope Depth to bedrock Slow water movement Too acid	 1.00 1.00 0.62 0.14	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00 1.00  1.00  1.00 1.00



# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
17F: Dekalb, very stony-----	75	Very limited Slope Depth to bedrock Cobble content Too acid	 1.00 1.00 1.00 0.14	Very limited Filtering capacity Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00 1.00  1.00  1.00
Lily, very stony----	20	Very limited Slope Depth to bedrock Slow water movement Too acid	 1.00 1.00 0.62 0.14	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00 1.00  1.00  1.00 1.00
18A: Derroc-----	85	Very limited Flooding Cobble content Stone content	 1.00 0.91 0.09	Very limited Filtering capacity Flooding Cobble content	 1.00  1.00 1.00
19C: Edneytown-----	90	Very limited Slope Slow water movement Depth to bedrock Too acid	 1.00 1.00 1.00 0.14	Very limited Too steep for surface application Too acid Too steep for sprinkler irrigation	 1.00  1.00  0.94
19D: Edneytown-----	90	Very limited Slope Slow water movement Depth to bedrock Too acid	 1.00 1.00 1.00 0.14	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00  1.00
20C: Edneytown, very stony-----	60	Very limited Slow water movement Slope Depth to bedrock Too acid	 1.00  1.00 1.00 0.13	Very limited Too acid Too steep for surface application Too steep for sprinkler irrigation	 1.00 1.00  0.94

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
20C: Peaks, very stony---	35	Very limited Depth to bedrock Slope Too acid	1.00 1.00 0.03	Very limited Filtering capacity Depth to bedrock Too acid Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00 1.00 0.94
20E: Edneytown, very stony-----	60	Very limited Slope Slow water movement Depth to bedrock Too acid	1.00 1.00 1.00 0.14	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00
Peaks, very stony---	35	Very limited Slope Depth to bedrock Too acid	1.00 1.00 0.03	Very limited Filtering capacity Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 1.00
20F: Edneytown, very stony-----	60	Very limited Slope Slow water movement Depth to bedrock Too acid	1.00 1.00 1.00 0.14	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00
Peaks, very stony---	35	Very limited Slope Depth to bedrock Too acid	1.00 1.00 0.03	Very limited Filtering capacity Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 1.00

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
21B: Escatawba-----	80	Very limited Slow water movement Depth to saturated zone Too acid Slope	 1.00 0.96 0.21 0.12	Very limited Too acid Depth to saturated zone Too steep for surface application Slow water movement	 1.00 0.86 0.32 0.26
21C: Escatawba-----	80	Very limited Slope Slow water movement Depth to saturated zone Too acid	 1.00 1.00 0.86 0.21	Very limited Too steep for surface application Too acid Too steep for sprinkler irrigation Depth to saturated zone Slow water movement	 1.00 1.00 0.94 0.86 0.26
22B: Frederick-----	85	Very limited Slow water movement Slope Too acid	 1.00 0.12 0.03	Somewhat limited Too acid Too steep for surface application	 0.42 0.32
22C: Frederick-----	80	Very limited Slope Slow water movement Too acid	 1.00 1.00 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00 0.94 0.42
22D: Frederick-----	80	Very limited Slope Slow water movement Too acid	 1.00 1.00 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00 1.00 0.42
23E: Frederick-----	65	Very limited Slope Slow water movement Too acid	 1.00 1.00 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00 1.00 0.42

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
23E: Caneyville-----	30	Very limited Slope Slow water movement Depth to bedrock	 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement Too acid	 1.00 1.00  1.00  0.26 0.07
24C: Frederick, very rocky-----	45	Very limited Slow water movement Slope Too acid	 1.00 1.00 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  0.50  0.42
Caneyville, very rocky-----	35	Very limited Slow water movement Depth to bedrock Slope	 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement Too acid	 1.00 1.00  0.50  0.26 0.07
24E: Frederick, very rocky-----	40	Very limited Slope Slow water movement Too acid	 1.00 1.00 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00  0.42
Caneyville, very rocky-----	38	Very limited Slope Slow water movement Depth to bedrock	 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement Too acid	 1.00 1.00  1.00  0.26 0.07

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
25C:					
Frederick-----	60	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	0.94
		Too acid	0.03	Too acid	0.91
Watahala-----	30	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.03	Too steep for sprinkler irrigation	0.94
25D:					
Frederick-----	45	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.03	Too acid	0.91
Watahala-----	35	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.03	Too acid	1.00
25E:					
Frederick-----	50	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.03	Too acid	0.91
Watahala-----	40	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.03	Too acid	1.00
26A:					
Gladehill-----	85	Somewhat limited Slow water movement	0.32	Somewhat limited Flooding Too acid	0.60 0.07
		Flooding	0.60		

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
27B: Groseclose-----	80	Very limited Slow water movement Slope	1.00 0.12	Somewhat limited Too acid Too steep for surface application Slow water movement	0.96 0.32 0.26
27C: Groseclose-----	80	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too acid Too steep for sprinkler irrigation Slow water movement	1.00 0.96 0.94 0.26
27D: Groseclose-----	80	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Slow water movement	1.00 1.00 0.96 0.26
28E: Groseclose-----	50	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Slow water movement	1.00 1.00 0.96 0.26
Needmore-----	40	Very limited Slope Slow water movement Depth to bedrock	1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement Too acid	1.00 1.00 1.00 0.26 0.07

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
29C: Groseclose-----	35	Very limited Slow water movement Slope	1.00  0.88	Somewhat limited Too acid Too steep for surface application Slow water movement Too steep for sprinkler irrigation	 0.96 0.92  0.26 0.06
Needmore-----	30	Very limited Slow water movement Depth to bedrock Slope	1.00  1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement Too acid	 1.00 1.00  0.50 0.26 0.07
Urban land-----	25	Not rated		Not rated	
30A: Holly-----	50	Very limited Ponding Depth to saturated zone Slow water movement Flooding	1.00 1.00 1.00 0.60	Very limited Ponding Depth to saturated zone Flooding Too acid	1.00 1.00 0.60 0.42
Orrville-----	45	Very limited Ponding Depth to saturated zone Slow water movement Flooding	1.00 1.00 1.00 0.60	Very limited Ponding Depth to saturated zone Flooding	1.00 1.00 0.60
31A: Ingledove-----	85	Very limited Slow water movement	1.00	Somewhat limited Too acid	0.31
32A: Irongate-----	85	Very limited Depth to saturated zone Slow water movement Flooding	1.00 1.00 0.60	Very limited Depth to saturated zone Flooding Too acid	1.00 0.60 0.42



# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
33C:					
Litz-----	35	Very limited Slope Depth to bedrock Slow water movement Cobble content Too acid	 1.00 1.00 1.00  0.20 0.03	Very limited Depth to bedrock Too steep for surface application Too acid Too steep for sprinkler irrigation	 1.00 1.00    1.00 0.94
Chiswell-----	30	Very limited Slope Depth to bedrock Slow water movement Cobble content Too acid	 1.00 1.00 1.00  0.03 0.03	Very limited Depth to bedrock Too steep for surface application Too acid Too steep for sprinkler irrigation	 1.00 1.00    1.00 0.94
Groseclose-----	20	Very limited Slope Slow water movement	 1.00 1.00	Very limited Too steep for surface application Too acid Too steep for sprinkler irrigation Slow water movement	 1.00      0.96 0.94  0.26
33E:					
Litz-----	35	Very limited Slope Depth to bedrock Slow water movement Cobble content Too acid	 1.00 1.00 1.00  0.20 0.03	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00 1.00    1.00 1.00
Chiswell-----	25	Very limited Slope Depth to bedrock Slow water movement Cobble content Too acid	 1.00 1.00 1.00  0.03 0.03	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00 1.00    1.00 1.00

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
33E: Groseclose-----	25	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Slow water movement	1.00 1.00 0.96 0.26
33F: Litz-----	35	Very limited Slope Depth to bedrock Slow water movement Cobble content Too acid	1.00 1.00 1.00 0.20 0.03	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 1.00
Chiswell-----	30	Very limited Slope Depth to bedrock Slow water movement Cobble content Too acid	1.00 1.00 1.00 0.03 0.03	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 1.00
Groseclose-----	20	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Slow water movement	1.00 1.00 0.96 0.26
34C: Litz, very stony----	55	Very limited Depth to bedrock Slow water movement Slope Cobble content Too acid	1.00 1.00 1.00 0.20 0.03	Very limited Depth to bedrock Too acid Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00 0.50

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
34C: Needmore, very stony-----	35	Very limited Slow water movement Depth to bedrock Slope	1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement Too acid	1.00 1.00 0.50 0.26 0.07
34E: Litz, very stony----	55	Very limited Slope Depth to bedrock Slow water movement Cobble content Too acid	1.00 1.00 1.00 0.20 0.03	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 1.00
Needmore, very stony-----	35	Very limited Slope Slow water movement Depth to bedrock	1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement Too acid	1.00 1.00 1.00 0.26 0.07
34F: Litz, very stony----	55	Very limited Slope Depth to bedrock Slow water movement Cobble content Too acid	1.00 1.00 1.00 0.20 0.03	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 1.00
Needmore, very stony-----	35	Very limited Slope Slow water movement Depth to bedrock	1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement Too acid	1.00 1.00 1.00 0.26 0.07

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
35C:					
Lodi-----	40	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Slow water movement	1.00	Too acid	1.00
				Too steep for sprinkler irrigation	0.94
McClung-----	35	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14	Too steep for sprinkler irrigation	0.94
Lily-----	20	Very limited Slope	1.00	Very limited Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	0.62	Too acid	1.00
		Too acid	0.14	Too steep for sprinkler irrigation	0.94
35E:					
Lodi-----	35	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
McClung-----	30	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.14	Too acid	1.00
Lily-----	25	Very limited Slope	1.00	Very limited Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	0.62	Too steep for sprinkler irrigation	1.00
		Too acid	0.14	Too acid	1.00

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
36C: Lostcove, extremely stony-----	80	Very limited Depth to saturated zone Slow water movement Stone content Cobble content Slope	1.00 1.00 1.00 1.00 1.00	Very limited Cobble content Too acid Too steep for surface application Too steep for sprinkler irrigation Large stones on the surface	1.00 1.00 1.00 0.94 0.02
37E: Lostcove, very stony-----	80	Very limited Slope Depth to saturated zone Slow water movement Stone content Cobble content	1.00 1.00 1.00 1.00 1.00	Very limited Too steep for surface a application Too steep for sprinkler irrigation Cobble content Too acid Large stones on the surface	1.00 1.00 1.00 1.00 1.00 0.02
37F: Lostcove, very stony-----	80	Very limited Slope Depth to saturated zone Slow water movement Stone content Cobble content	1.00 1.00 1.00 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Cobble content Too acid Large stones on the surface	1.00 1.00 1.00 1.00 1.00 0.02
38E: Marbleyard, extremely stony----	70	Very limited Slope Slow water movement Depth to bedrock Cobble content Too acid	1.00 1.00 1.00 1.00 0.80 0.77	Very limited Slow water movement Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
39F: Marbleyard, extremely stony----	45	Very limited Slope Slow water movement Depth to bedrock Cobble content Too acid	 1.00 1.00  1.00 0.80 0.77	Very limited Slow water movement Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00 1.00  1.00 1.00 1.00
Sherando, extremely stony-----	30	Very limited Slope Slow water movement Cobble content Too acid	 1.00 0.32  0.18 0.03	Very limited Filtering capacity Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00  1.00 1.00 1.00
Rock outcrop-----	20	Not rated		Not rated	
39G: Marbleyard, extremely stony----	45	Very limited Slope Slow water movement Depth to bedrock Cobble content Too acid	 1.00 1.00  1.00 0.80 0.77	Very limited Slow water movement Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00 1.00  1.00 1.00 1.00
Sherando, extremely stony-----	30	Very limited Slope Slow water movement Cobble content Too acid	 1.00 0.32  0.18 0.03	Very limited Filtering capacity Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00  1.00 1.00 1.00
Rock outcrop-----	20	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
40A: Maurertown-----	50	Very limited Ponding Slow water movement Depth to saturated zone	 1.00 1.00 1.00	Very limited Slow water movement Ponding Depth to saturated zone Too acid	 1.00  1.00 1.00 0.07
Toms-----	45	Very limited Ponding Slow water movement Depth to saturated zone	 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Slow water movement	 1.00 1.00
41C: McCamy, very stony-----	85	Very limited Depth to bedrock Slope Slow water movement Too acid	 1.00 1.00 0.61 0.14	Very limited Depth to bedrock Too acid Too steep for surface application Too steep for sprinkler irrigation	 1.00 1.00 1.00 0.50
42F: McClung, very stony-----	40	Very limited Slope Slow water movement Too acid	 1.00 1.00 0.14	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00 1.00
Caneyville, very stony-----	30	Very limited Slope Slow water movement Depth to bedrock	 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement Too acid	 1.00 1.00 1.00 0.26 0.07



# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
42F: Dekalb, very stony-----	25	Very limited Slope Depth to bedrock Cobble content Too acid	 1.00 1.00 1.00 0.14	Very limited Filtering capacity Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00 1.00  1.00  1.00
43C: Needmore-----	60	Very limited Slow water movement Depth to bedrock Slope	 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement Too acid	 1.00 1.00  0.50   0.26 0.07
Opequon-----	30	Very limited Depth to bedrock Slow water movement Slope	 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation	 1.00 1.00  0.50
43E: Needmore-----	55	Very limited Slope Slow water movement Depth to bedrock	 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement Too acid	 1.00 1.00  1.00   0.26 0.07
Opequon-----	35	Very limited Slope Depth to bedrock Slow water movement	 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation	 1.00 1.00  1.00

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
43F: Needmore-----	50	Very limited Slope Slow water movement Depth to bedrock	 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement Too acid	 1.00 1.00  1.00  0.26 0.07
Opequon-----	40	Very limited Slope Depth to bedrock Slow water movement	 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation	 1.00 1.00  1.00
44E: Needmore-----	70	Very limited Slope Slow water movement Depth to bedrock	 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement Too acid	 1.00 1.00  1.00  0.26 0.07
Urban land-----	25	Not rated		Not rated	
45B: Nicelytown-----	80	Very limited Slow water movement Depth to saturated zone Slope Too acid	 1.00 1.00 0.12 0.03	Very limited Depth to saturated zone Too acid Slow water movement Too steep for surface application	 1.00 1.00 0.34 0.32
46B: Nicelytown-----	50	Very limited Slow water movement Depth to saturated zone Slope Too acid	 1.00 1.00 0.12 0.03	Very limited Depth to saturated zone Too acid Slow water movement Too steep for surface application	 1.00 1.00 0.34 0.32
Urban land-----	45	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
47C: Oriskany, extremely stony-----	65	Very limited Slope Cobble content Slow water movement Stone content	 1.00 0.99 0.32  0.01	Very limited Too steep for surface application Too acid Too steep for sprinkler irrigation Cobble content	 1.00   0.96 0.94  0.18
Laidig, extremely stony-----	25	Very limited Depth to cemented pan Slope Slow water movement Depth to saturated zone Too acid	 1.00 1.00 0.96 0.68 0.14	Very limited Depth to cemented pan Too acid Too steep for surface application Too steep for sprinkler irrigation Depth to saturated zone	 1.00 1.00 1.00 0.94  0.68
47E: Oriskany, extremely stony-----	60	Very limited Slope Cobble content Slow water movement Stone content	 1.00 0.99 0.32  0.01	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Cobble content	 1.00   1.00  0.96 0.18
Laidig, extremely stony-----	30	Very limited Slope Depth to cemented pan Slow water movement Depth to saturated zone Too acid	 1.00 1.00 0.96 0.68 0.14	Very limited Depth to cemented pan Too steep for surface application Too steep for sprinkler irrigation Too acid Depth to saturated zone	 1.00 1.00 1.00 1.00 1.00 0.68
48F: Oriskany, extremely stony-----	80	Very limited Slope Cobble content Slow water movement Stone content	 1.00 0.99 0.32  0.01	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Cobble content	 1.00   1.00  0.96 0.18

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
49C: Oriskany, extremely stony-----	55	Very limited Slope Cobble content Slow water movement Stone content	1.00 0.99 0.32 0.01	Very limited Too steep for surface application Too acid Too steep for sprinkler irrigation Cobble content	1.00  0.96 0.94  0.18
Murrill, extremely stony-----	35	Very limited Slow water movement Slope Too acid	1.00 1.00 0.03	Very limited Cobble content Too acid Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00 0.94
49E: Oriskany, extremely stony-----	55	Very limited Slope Cobble content Slow water movement Stone content	1.00 0.99 0.32 0.01	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Cobble content	1.00  1.00  0.96 0.18
Murrill, extremely stony-----	35	Very limited Slope Slow water movement Too acid	1.00 1.00 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Cobble content Too acid	1.00 1.00 1.00 1.00 1.00
49F: Oriskany, extremely stony-----	65	Very limited Slope Cobble content Slow water movement Stone content	1.00 0.99 0.32 0.01	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Cobble content	1.00  1.00  0.96 0.18

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
49F: Murrill, extremely stony-----	25	Very limited Slope Slow water movement Too acid	1.00 1.00 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Cobble content Too acid	1.00 1.00 1.00 1.00 1.00
50E: Peaks, very rocky---	55	Very limited Slope Depth to bedrock Too acid	1.00 1.00 0.03	Very limited Filtering capacity Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 1.00 1.00 1.00
Edneytown, very rocky-----	40	Very limited Slope Slow water movement Depth to bedrock Too acid	1.00 1.00 1.00 0.14	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 1.00
50F: Peaks, very rocky---	55	Very limited Slope Depth to bedrock Too acid	1.00 1.00 0.03	Very limited Filtering capacity Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 1.00 1.00 1.00
Edneytown, very rocky-----	40	Very limited Slope Slow water movement Depth to bedrock Too acid	1.00 1.00 1.00 0.14	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 1.00

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
51A: Philo-----	75	Very limited Depth to saturated zone Slow water movement Flooding	 1.00 1.00 0.60	Very limited Depth to saturated zone Too acid Flooding	 1.00 0.99 0.60
52C: Pignut, very stony-----	50	Very limited Depth to bedrock Slow water movement Slope	 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too acid Too steep for sprinkler irrigation	 1.00 1.00  0.96 0.50
Myersville, very stony-----	40	Very limited Depth to bedrock Slow water movement Slope	 1.00 1.00 1.00	Very limited Too steep for surface application Too acid Too steep for sprinkler irrigation Depth to bedrock	 1.00  0.91 0.50 0.42
53E: Pignut, very stony-----	90	Very limited Slope Depth to bedrock Slow water movement	 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00 1.00  1.00 0.96
53F: Pignut, very stony-----	90	Very limited Slope Depth to bedrock Slow water movement	 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00 1.00  1.00 0.96
54: Pits-----	50	Not rated		Not rated	
Dumps-----	45	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
55A: Pope-----	90	Somewhat limited Flooding Slow water movement	0.60 0.32	Somewhat limited Flooding Too acid	0.60 0.42
56G: Rock outcrop-----	60	Not rated		Not rated	
Opequon-----	25	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00
57A: Sensabaugh-----	40	Somewhat limited Slow water movement Flooding	0.62 0.60	Somewhat limited Flooding Too acid	0.60 0.01
Lobdell-----	30	Very limited Depth to saturated zone Slow water movement Flooding	1.00 1.00 0.60	Very limited Depth to saturated zone Flooding	1.00 0.60
Derroc-----	20	Somewhat limited Cobble content Flooding Stone content	0.91 0.60 0.09	Very limited Filtering capacity Cobble content Flooding	1.00 1.00 0.60
58B: Shottower-----	90	Very limited Slow water movement Slope	1.00 0.12	Somewhat limited Too steep for surface application Low adsorption Too acid	0.32 0.29 0.21
58C: Shottower-----	90	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Low adsorption Too acid	1.00 0.94 0.29 0.21



# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
58D: Shottower-----	85	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Low adsorption Too acid	1.00 1.00 0.29 0.21
59E: Shottower-----	85	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Low adsorption Too acid	1.00 1.00 0.38 0.21
60C: Shottower-----	50	Very limited Slow water movement Slope	1.00 0.12	Somewhat limited Too steep for surface application Low adsorption Too acid	0.32 0.29 0.21
Urban land-----	45	Not rated		Not rated	
61B: Slabtown-----	80	Very limited Slow water movement Depth to saturated zone Slope	1.00 0.96 0.12	Somewhat limited Depth to saturated zone Too steep for surface application Slow water movement Too acid	0.95 0.32 0.26 0.07
61C: Slabtown-----	80	Very limited Slope Slow water movement Depth to saturated zone	1.00 1.00 0.96	Very limited Too steep for surface application Depth to saturated zone Too steep for sprinkler irrigation Slow water movement Too acid	1.00 0.95 0.94 0.26 0.07
62: Slickens-----	100	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
63E: Stumptown, extremely stony----	40	Very limited Slope Depth to bedrock Stone content Slow water movement Cobble content	 1.00 1.00 1.00 0.32 0.19	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00 1.00  1.00   1.00
Marbleyard, extremely stony----	35	Very limited Slope Slow water movement Depth to bedrock Cobble content Too acid	 1.00 1.00  1.00 0.80 0.77	Very limited Slow water movement Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00 1.00  1.00  1.00
Rock outcrop-----	15	Not rated		Not rated	
63F: Stumptown, extremely stony----	40	Very limited Slope Depth to bedrock Stone content Slow water movement Cobble content	 1.00 1.00 1.00 0.32 0.19	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00 1.00  1.00   1.00
Marbleyard, extremely stony----	35	Very limited Slope Slow water movement Depth to bedrock Cobble content Too acid	 1.00 1.00  1.00 0.80 0.77	Very limited Slow water movement Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00 1.00  1.00  1.00
Rock outcrop-----	15	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
63G: Stumptown, extremely stony----	40	Very limited Slope Depth to bedrock Stone content Slow water movement Cobble content	 1.00 1.00 1.00 0.32 0.19	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00 1.00  1.00   1.00
Marbleyard, extremely stony----	35	Very limited Slope Slow water movement Depth to bedrock Cobble content Too acid	 1.00 1.00  1.00 0.80 0.77	Very limited Slow water movement Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00 1.00  1.00  1.00
Rock outcrop-----	15	Not rated		Not rated	
64E: Stumptown, very stony-----	50	Very limited Slope Depth to bedrock Stone content Slow water movement Cobble content	 1.00 1.00 1.00 0.32 0.19	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00 1.00  1.00  1.00 1.00
Sylco, very stony---	45	Very limited Slope Depth to bedrock Cobble content Slow water movement Too acid	 1.00 1.00 0.96 0.78 0.14	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid Cobble content	 1.00 1.00  1.00  1.00 1.00 0.08
64F: Stumptown, very stony-----	50	Very limited Slope Depth to bedrock Stone content Slow water movement Cobble content	 1.00 1.00 1.00 0.32 0.19	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00 1.00  1.00  1.00 1.00

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
64F: Sylco, very stony---	35	Very limited Slope Depth to bedrock Cobble content Slow water movement Too acid	 1.00 1.00 0.96 0.78  0.14	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid Cobble content	 1.00 1.00    1.00  1.00 0.08
65E: Sylco, very rocky---	45	Very limited Slope Depth to bedrock Cobble content Slow water movement Too acid	 1.00 1.00 0.96 0.78  0.14	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid Cobble content	 1.00 1.00    1.00  1.00 0.08
Marbleyard, very rocky-----	40	Very limited Slope Slow water movement Depth to bedrock Cobble content Too acid	 1.00 1.00  1.00 0.80 0.77	Very limited Slow water movement Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00 1.00 1.00 1.00  1.00  1.00 1.00
65F: Sylco, very rocky---	50	Very limited Slope Depth to bedrock Cobble content Slow water movement Too acid	 1.00 1.00 0.96 0.78  0.14	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid Cobble content	 1.00 1.00    1.00  1.00 0.08
Marbleyard, very rocky-----	45	Very limited Slope Slow water movement Depth to bedrock Cobble content Too acid	 1.00 1.00  1.00 0.80 0.77	Very limited Slow water movement Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00 1.00 1.00 1.00  1.00  1.00 1.00

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
65G: Sylco, very rocky----	50	Very limited Slope Depth to bedrock Cobble content Slow water movement Too acid	 1.00 1.00 0.96 0.78  0.14	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid Cobble content	 1.00 1.00  1.00   1.00 1.00 0.08
Marbleyard, very rocky-----	35	Very limited Slope Slow water movement Depth to bedrock Cobble content Too acid	 1.00 1.00  1.00 0.80 0.77	Very limited Slow water movement Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00 1.00  1.00 1.00 1.00
66C: Thunder, very bouldery-----	50	Very limited Slow water movement Cobble content Slope Stone content Too acid	 1.00  1.00 1.00 0.97 0.03	Very limited Too acid Too steep for surface application Too steep for sprinkler irrigation Cobble content Large stones on the surface	 1.00 1.00    0.94  0.87 0.18
Saunook, very bouldery-----	30	Very limited Slow water movement Slope Too acid	 1.00  1.00 0.03	Very limited Too acid Too steep for surface application Too steep for sprinkler irrigation	 1.00 1.00   0.94
66E: Thunder, very bouldery-----	50	Very limited Slope Slow water movement Cobble content Stone content Too acid	 1.00 1.00  1.00 0.97 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Cobble content Large stones on the surface	 1.00   1.00  1.00 0.87 0.18

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
66E: Saunook, very bouldery-----	30	Very limited Slope Slow water movement Too acid	1.00 1.00 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00
66F: Thunder, very bouldery-----	50	Very limited Slope Slow water movement Cobble content Stone content Too acid	1.00 1.00 1.00 0.97 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Cobble content Large stones on the surface	1.00 1.00 1.00 1.00 0.87 0.18
Saunook, very bouldery-----	30	Very limited Slope Slow water movement Too acid	1.00 1.00 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00
67C: Tumbling-----	50	Very limited Slope Slow water movement Too acid	1.00 1.00 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Low adsorption	1.00 1.00 0.94 0.42 0.31
Vanella-----	40	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 0.94 0.85

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
67D: Tumbling-----	50	Very limited Slope Slow water movement Too acid	 1.00 1.00 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Low adsorption	 1.00  1.00 0.42 0.31
Vanella-----	40	Very limited Slope Slow water movement	 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00 0.85
67E: Tumbling-----	50	Very limited Slope Slow water movement Too acid	 1.00 1.00 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Low adsorption	 1.00  1.00 0.42 0.31
Vanella-----	40	Very limited Slope Slow water movement	 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00 0.85
68D: Tumbling-----	35	Very limited Slope Slow water movement Too acid	 1.00 1.00 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Low adsorption	 1.00  0.94 0.42 0.31
Vanella-----	30	Very limited Slope Slow water movement	 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  0.94 0.85
Urban land-----	25	Not rated		Not rated	



# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
69A:					
Tygart-----	55	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Slow water	1.00	Depth to	1.00
		movement		saturated zone	
		Depth to	1.00	Slow water	0.96
		saturated zone		movement	
		Too acid	0.14	Too acid	0.42
Purdy-----	40	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Slow water	1.00	Depth to	1.00
		movement		saturated zone	
		Depth to	1.00	Too acid	1.00
		saturated zone		Slow water	0.96
		Too acid	0.14	movement	
70:					
Udorthents, refuse					
substratum-----	85	Not rated		Not rated	
71:					
Udorthents-----	50	Not rated		Not rated	
Urban land-----	45	Not rated		Not rated	
72C:					
Unaka, very stony---	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Too acid	1.00
		Slow water	0.32	Too steep for	1.00
		movement		surface	
		Too acid	0.03	application	
				Too steep for	0.78
				sprinkler	
				irrigation	
Plott, very stony---	30	Very limited		Very limited	
		Slope	1.00	Too acid	1.00
		Slow water	0.32	Too steep for	1.00
		movement		surface	
		Too acid	0.03	application	
				Too steep for	0.78
				sprinkler	
				irrigation	
72E:					
Unaka, very stony---	65	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for	1.00
		Slow water		surface	
		movement	0.32	application	
		Too acid	0.03	Too steep for	1.00
				sprinkler	
				irrigation	
				Too acid	1.00

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
72E: Plott, very stony---	30	Very limited Slope Slow water movement Too acid	 1.00 0.32 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00 1.00
73C: Vanella, very stony-----	50	Very limited Slow water movement Slope Cobble content Too acid	 1.00 1.00 0.07 0.03	Very limited Too acid Too steep for surface application Too steep for sprinkler irrigation Cobble content	 1.00 1.00  0.50 0.24
Tumbling, very stony-----	40	Very limited Slow water movement Slope Cobble content Too acid	 1.00 1.00 0.10 0.03	Very limited Too acid Too steep for surface application Low adsorption Too steep for sprinkler irrigation	 1.00 1.00  0.52 0.50
73E: Vanella, very stony-----	50	Very limited Slope Slow water movement Cobble content Too acid	 1.00 1.00 0.07 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Cobble content	 1.00  1.00  1.00 0.24
Tumbling, very stony-----	40	Very limited Slope Slow water movement Cobble content Too acid	 1.00 1.00 0.10 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Low adsorption	 1.00  1.00  1.00 0.52

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
74C: Watahala, very stony-----	60	Very limited Slope Slow water movement Too acid	1.00 1.00 0.03	Very limited Too steep for surface application Too acid Too steep for sprinkler irrigation Cobble content	1.00  0.96 0.94  0.18
Frederick, very stony-----	30	Very limited Slope Slow water movement Too acid	1.00 1.00 0.03	Very limited Too steep for surface application Too acid Too steep for sprinkler irrigation Cobble content	1.00  1.00 0.94  0.32
74E: Watahala, very stony-----	50	Very limited Slope Slow water movement Too acid	1.00 1.00 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Cobble content	1.00  1.00  0.96 0.18
Frederick, very stony-----	35	Very limited Slope Slow water movement Too acid	1.00 1.00 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Cobble content	1.00  1.00  1.00 0.32
74F: Watahala, very stony-----	60	Very limited Slope Slow water movement Too acid	1.00 1.00 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Cobble content	1.00  1.00  0.96 0.18

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
74F: Frederick, very stony-----	20	Very limited Slope Slow water movement Too acid	1.00 1.00 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid Cobble content	1.00 1.00 1.00 1.00 0.32
75E: Weikert-----	45	Very limited Slope Depth to bedrock Slow water movement Cobble content Too acid	1.00 1.00 0.32 0.31 0.03	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 1.00
Berks-----	30	Very limited Slope Depth to bedrock Slow water movement Cobble content Too acid	1.00 1.00 0.62 0.12 0.03	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 1.00
Rough-----	20	Very limited Slope Depth to bedrock Cobble content Too acid	1.00 1.00 0.33 0.03	Very limited Depth to bedrock Too acid Too steep for surface application Too steep for sprinkler irrigation Cobble content	1.00 1.00 1.00 1.00 1.00 0.08
75F: Weikert-----	45	Very limited Slope Depth to bedrock Slow water movement Cobble content Too acid	1.00 1.00 0.32 0.31 0.03	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	1.00 1.00 1.00 1.00 1.00

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
75F: Berks-----	30	Very limited Slope Depth to bedrock Slow water movement Cobble content Too acid	 1.00 1.00 0.62  0.12 0.03	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00 1.00    1.00  1.00
Rough-----	15	Very limited Slope Depth to bedrock Cobble content Too acid	 1.00 1.00 0.33 0.03	Very limited Depth to bedrock Too acid Too steep for surface application Too steep for sprinkler irrigation Cobble content	 1.00  1.00 1.00  1.00  0.08
76G: Weikert-----	35	Very limited Slope Depth to bedrock Slow water movement Cobble content Too acid	 1.00 1.00 0.32  0.31 0.03	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00 1.00   1.00  1.00
Rough-----	30	Very limited Slope Depth to bedrock Cobble content Too acid	 1.00 1.00 0.33 0.03	Very limited Depth to bedrock Too acid Too steep for surface application Too steep for sprinkler irrigation Cobble content	 1.00 1.00 1.00  1.00  0.08
Rock outcrop-----	25	Not rated		Not rated	
77C: Wintergreen-----	90	Very limited Slope Slow water movement Too acid	 1.00 1.00  0.14	Very limited Too steep for surface application Too acid Too steep for sprinkler irrigation	 1.00   1.00 0.94

# Soil Survey of Rockbridge County, Virginia

Table 7.-Agricultural Waste Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
77D: Wintergreen-----	90	Very limited Slope Slow water movement Too acid	 1.00 1.00 0.14	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00 1.00
77E: Wintergreen-----	90	Very limited Slope Slow water movement Too acid	 1.00 1.00 0.14	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00 1.00
78E: Wintergreen, very stony-----	85	Very limited Slope Slow water movement Too acid	 1.00 1.00 0.14	Very limited Too steep for surface application Too steep for sprinkler irrigation Too acid	 1.00  1.00 1.00
79A: Wolfgap-----	90	Very limited Slow water movement	 1.00	Not limited	
80A: Wolfgap-----	35	Very limited Slow water movement	 1.00	Not limited	
Derroc-----	30	Somewhat limited Cobble content Stone content	 0.91 0.09	Very limited Filtering capacity Cobble content	 1.00 1.00
Urban land-----	25	Not rated		Not rated	
W: Water-----	100	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 8.—Forestland Productivity

(Dashes indicate that no data are available. Absence of an entry indicates that the map unit is not used for forestland.)

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume	
			of wood fiber cu ft/ac	
1A: Alonzville, rarely flooded-----	northern red oak----	70	52	eastern white pine, northern red oak, white oak, yellow- poplar
	yellow-poplar-----	90	90	
	eastern white pine--	80	144	
	hickory-----	65	41	
	white oak-----	70	52	
2B: Alonzville-----	northern red oak----	70	52	black oak, eastern white pine, white oak
	yellow-poplar-----	90	90	
	eastern white pine--	80	144	
	hickory-----	65	41	
	white oak-----	70	52	
3B: Alonzville-----	northern red oak----	70	52	black oak, eastern white pine, white oak
	yellow-poplar-----	90	90	
	eastern white pine--	80	144	
	hickory-----	65	41	
	white oak-----	70	52	
Urban land.				
4C: Berks-----	chestnut oak-----	60	43	black oak, eastern white pine, white oak
	white oak-----	60	43	
	scarlet oak-----	60	43	
	eastern white pine--	70	120	
	Virginia pine-----	60	91	
	black oak-----	60	43	
	pitch pine-----	60	90	
Weikert-----	eastern white pine--	60	97	black oak, eastern white pine, white oak
	chestnut oak-----	50	34	
	white oak-----	50	34	
	black oak-----	50	34	
	Table Mountain pine-	50	67	
	pitch pine-----	50	67	
	Virginia pine-----	50	67	
	scarlet oak-----	50	34	
5A: Botetourt-----	northern red oak----	75	57	eastern white pine, northern red oak, shortleaf pine, yellow-poplar
	American sycamore---	80	---	
	black oak-----	75	57	
	eastern white pine--	85	162	
6A: Botetourt-----	northern red oak----	75	57	eastern white pine, northern red oak, shortleaf pine, yellow-poplar
	American sycamore---	80	---	
	black oak-----	75	57	
	eastern white pine--	85	162	
Urban land.				



# Soil Survey of Rockbridge County, Virginia

Table 8.—Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume	
			of wood fiber cu ft/ac	
7A:				
Buckton-----	yellow-poplar-----	100	107	walnut,
	black walnut-----	85	65	yellow-poplar
	American sycamore---	75	---	
	red maple-----	80	---	
Weaver-----	yellow-poplar-----	95	98	walnut,
	black walnut-----	80	62	yellow-poplar
	American sycamore---	65	---	
	red maple-----	80	---	
8F:				
Caneyville-----	northern red oak----	65	47	northern red oak,
	black oak-----	60	43	eastern white
	white oak-----	60	43	pine, black oak,
	hickory-----	55	35	white oak,
	red maple-----	55	---	yellow-poplar
	yellow-poplar-----	80	70	
	eastern redcedar----	45	57	
Frederick-----	northern red oak----	75	57	northern red oak,
	sugar maple-----	65	41	white oak,
	white oak-----	70	52	yellow-poplar
	yellow-poplar-----	90	90	
Rock outcrop.				
9C:				
Carbo, very rocky-----	northern red oak----	65	47	northern red oak,
	black oak-----	60	43	eastern white
	white oak-----	60	43	pine, black oak,
	hickory-----	55	35	white oak,
	red maple-----	55	---	yellow-poplar
	yellow-poplar-----	80	70	
	eastern redcedar----	45	57	
Opequon, very rocky----	chestnut oak-----	50	35	chestnut oak,
	eastern redcedar----	35	40	eastern white
	scarlet oak-----	50	35	pine, white oak
	white oak-----	50	35	
9E:				
Carbo, very rocky-----	northern red oak----	65	47	northern red oak,
	black oak-----	60	43	eastern white
	white oak-----	60	43	pine, black oak,
	hickory-----	55	35	white oak,
	red maple-----	55	---	yellow-poplar
	yellow-poplar-----	80	70	
	eastern redcedar----	45	57	
Opequon, very rocky----	chestnut oak-----	50	35	chestnut oak,
	eastern redcedar----	35	40	eastern white
	scarlet oak-----	50	35	pine, white oak
	white oak-----	50	35	
10F:				
Carbo-----	northern red oak----	65	47	northern red oak,
	black oak-----	60	43	eastern white
	white oak-----	60	43	pine, black oak,
	hickory-----	55	35	white oak,
	red maple-----	55	---	yellow-poplar
	yellow-poplar-----	80	70	
	eastern redcedar----	45	57	

# Soil Survey of Rockbridge County, Virginia

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume	
			of wood fiber cu ft/ac	
10F: Opequon-----	chestnut oak----- eastern redcedar---- scarlet oak----- white oak-----	50 35 50 50	35 40 35 35	chestnut oak, eastern white pine, white oak
Rock outcrop.				
11B: Cottonbend-----	eastern white pine-- white oak----- black oak----- scarlet oak----- Virginia pine-----	85 75 75 75 75	162 57 57 57 114	black oak, eastern white pine, white oak
11C: Cottonbend-----	eastern white pine-- white oak----- black oak----- scarlet oak----- Virginia pine-----	85 75 75 75 75	162 57 57 57 114	black oak, eastern white pine, white oak
12A: Coursey, rarely flooded-----	northern red oak---- American sycamore--- black oak----- eastern white pine--	75 80 75 85	57 --- 57 162	eastern white pine, northern red oak, shortleaf pine, yellow-poplar
13B: Coursey-----	northern red oak---- American sycamore--- black oak----- eastern white pine--	75 80 75 85	57 --- 57 162	eastern white pine, northern red oak, shortleaf pine, yellow-poplar
14C: Dekalb, very stony-----	chestnut oak----- black oak----- scarlet oak----- pitch pine----- Virginia pine-----	60 60 60 60 60	43 43 43 90 90	black oak, chestnut oak, scarlet oak
Lehew, very stony-----	chestnut oak----- black oak----- scarlet oak----- pitch pine----- Virginia pine-----	60 60 60 60 60	43 43 43 90 90	black oak, chestnut oak, scarlet oak
Berks, very stony-----	chestnut oak----- white oak----- scarlet oak----- eastern white pine-- Virginia pine----- black oak----- pitch pine-----	65 65 65 75 65 65 65	48 48 48 132 100 48 100	black oak, eastern white pine, white oak

# Soil Survey of Rockbridge County, Virginia

Table 8.—Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
14E:				
Dekalb, very stony-----	chestnut oak-----	60	43	black oak,
	black oak-----	60	43	chestnut oak,
	scarlet oak-----	60	43	scarlet oak
	pitch pine-----	60	90	
	Virginia pine-----	60	90	
Lehew, very stony-----	chestnut oak-----	60	43	black oak,
	black oak-----	60	43	chestnut oak,
	scarlet oak-----	60	43	scarlet oak
	pitch pine-----	60	90	
	Virginia pine-----	60	90	
Berks, very stony-----	chestnut oak-----	65	48	black oak, eastern
	white oak-----	65	48	white pine, white
	scarlet oak-----	65	48	oak
	eastern white pine--	75	132	
	Virginia pine-----	65	100	
	black oak-----	65	48	
	pitch pine-----	65	100	
14F:				
Dekalb, very stony-----	chestnut oak-----	60	43	black oak,
	black oak-----	60	43	chestnut oak,
	scarlet oak-----	60	43	scarlet oak
	pitch pine-----	60	90	
	Virginia pine-----	60	90	
Lehew, very stony-----	chestnut oak-----	60	43	black oak,
	black oak-----	60	43	chestnut oak,
	scarlet oak-----	60	43	scarlet oak
	pitch pine-----	60	90	
	Virginia pine-----	60	90	
Berks, very stony-----	chestnut oak-----	65	48	black oak, eastern
	white oak-----	65	48	white pine, white
	scarlet oak-----	65	48	oak
	eastern white pine--	75	132	
	Virginia pine-----	65	100	
	black oak-----	65	48	
	pitch pine-----	65	100	
15E:				
Dekalb, extremely stony-----	chestnut oak-----	60	43	black oak,
	black oak-----	60	43	chestnut oak,
	scarlet oak-----	60	43	scarlet oak
	pitch pine-----	60	90	
	Virginia pine-----	60	90	
Lehew, extremely stony-----	chestnut oak-----	60	43	black oak,
	black oak-----	60	43	chestnut oak,
	scarlet oak-----	60	43	scarlet oak
	pitch pine-----	60	90	
	Virginia pine-----	60	90	
Rock outcrop.				

# Soil Survey of Rockbridge County, Virginia

Table 8.—Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume	
			of wood fiber cu ft/ac	
15F: Dekalb, extremely stony-----	chestnut oak-----	60	43	black oak,
	black oak-----	60	43	chestnut oak,
	scarlet oak-----	60	43	scarlet oak
	pitch pine-----	60	90	
	Virginia pine-----	60	90	
Lehew, extremely stony-----	chestnut oak-----	60	43	black oak,
	black oak-----	60	43	chestnut oak,
	scarlet oak-----	60	43	scarlet oak
	pitch pine-----	60	90	
	Virginia pine-----	60	90	
Rock outcrop.				
16C: Dekalb, very stony-----	chestnut oak-----	60	43	black oak,
	black oak-----	60	43	chestnut oak,
	scarlet oak-----	60	43	scarlet oak
	pitch pine-----	60	90	
	Virginia pine-----	60	90	
Lily, very stony-----	black oak-----	70	52	black oak, eastern
	yellow-poplar-----	80	71	white pine,
	northern red oak----	70	52	northern red oak,
	white oak-----	70	52	white oak,
	chestnut oak-----	70	52	yellow-poplar
	eastern white pine--	80	144	
16E: Dekalb, very stony-----	chestnut oak-----	60	43	black oak,
	black oak-----	60	43	chestnut oak,
	scarlet oak-----	60	43	scarlet oak
	pitch pine-----	60	90	
	Virginia pine-----	60	90	
Lily, very stony-----	black oak-----	70	52	black oak, eastern
	yellow-poplar-----	80	71	white pine,
	northern red oak----	70	52	northern red oak,
	white oak-----	70	52	white oak,
	chestnut oak-----	70	52	yellow-poplar
	eastern white pine--	80	144	
17F: Dekalb, very stony-----	chestnut oak-----	60	43	black oak,
	black oak-----	60	43	chestnut oak,
	scarlet oak-----	60	43	scarlet oak
	pitch pine-----	60	90	
	Virginia pine-----	60	90	
Lily, very stony-----	black oak-----	70	52	black oak, eastern
	yellow-poplar-----	80	71	white pine,
	northern red oak----	70	52	northern red oak,
	white oak-----	70	52	white oak,
	chestnut oak-----	70	52	yellow-poplar
	eastern white pine--	80	144	

# Soil Survey of Rockbridge County, Virginia

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume	
			of wood fiber cu ft/ac	
18A: Derroc-----	eastern white pine--	85	162	eastern white
	white oak-----	75	57	pine, white oak,
	scarlet oak-----	75	57	yellow-poplar
	yellow-poplar-----	85	80	
	Virginia pine-----	75	114	
	American sycamore---	80	---	
19C: Edneytown-----	eastern white pine--	100	185	eastern white
	northern red oak----	80	62	pine, northern
	white oak-----	60	43	red oak, white
	yellow-poplar-----	90	85	oak, yellow- poplar
19D: Edneytown-----	eastern white pine--	100	185	eastern white
	northern red oak----	80	62	pine, northern
	white oak-----	60	43	red oak, white
	yellow-poplar-----	90	85	oak, yellow- poplar
20C: Edneytown, very stony---	eastern white pine--	100	185	eastern white
	northern red oak----	80	62	pine, northern
	white oak-----	60	43	red oak, white
	yellow-poplar-----	90	85	oak, yellow- poplar
Peaks, very stony-----	chestnut oak-----	55	40	eastern white
	eastern white pine--	70	120	pine, northern
	northern red oak----	62	46	red oak
	scarlet oak-----	60	44	
	Virginia pine-----	57	81	
20E: Edneytown, very stony---	eastern white pine--	100	185	eastern white
	northern red oak----	80	62	pine, northern
	white oak-----	60	43	red oak, white
	yellow-poplar-----	90	85	oak, yellow- poplar
Peaks, very stony-----	chestnut oak-----	55	40	eastern white
	eastern white pine--	70	120	pine, northern
	northern red oak----	62	46	red oak
	scarlet oak-----	60	44	
	Virginia pine-----	57	81	
20F: Edneytown, very stony---	eastern white pine--	100	185	eastern white
	northern red oak----	80	62	pine, northern
	white oak-----	60	43	red oak, white
	yellow-poplar-----	90	85	oak, yellow- poplar
Peaks, very stony-----	chestnut oak-----	55	40	eastern white
	eastern white pine--	70	120	pine, northern
	northern red oak----	62	46	red oak
	scarlet oak-----	60	44	
	Virginia pine-----	57	81	

# Soil Survey of Rockbridge County, Virginia

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
21B:				
Escatawba-----	white oak-----	70	52	black oak, eastern
	black oak-----	70	52	white pine, white
	scarlet oak-----	70	52	oak
	chestnut oak-----	70	52	
	eastern white pine--	80	144	
	pitch pine-----	70	109	
21C:				
Escatawba-----	white oak-----	70	52	black oak, eastern
	black oak-----	70	52	white pine, white
	scarlet oak-----	70	52	oak
	chestnut oak-----	70	52	
	eastern white pine--	80	144	
	pitch pine-----	70	109	
22B:				
Frederick-----	northern red oak----	75	57	northern red oak,
	sugar maple-----	65	41	white oak,
	white oak-----	70	52	yellow-poplar
	yellow-poplar-----	90	90	
22C:				
Frederick-----	northern red oak----	75	57	northern red oak,
	sugar maple-----	65	41	white oak,
	white oak-----	70	52	yellow-poplar
	yellow-poplar-----	90	90	
22D:				
Frederick-----	northern red oak----	75	57	northern red oak,
	sugar maple-----	65	41	white oak,
	white oak-----	70	52	yellow-poplar
	yellow-poplar-----	90	90	
23E:				
Frederick-----	northern red oak----	75	57	northern red oak,
	sugar maple-----	65	41	white oak,
	white oak-----	70	52	yellow-poplar
	yellow-poplar-----	90	90	
Caneyville-----	northern red oak----	65	47	northern red oak,
	black oak-----	60	43	eastern white
	white oak-----	60	43	pine, black oak,
	hickory-----	55	35	white oak,
	red maple-----	55	---	yellow-poplar
	yellow-poplar-----	80	70	
	eastern redcedar----	45	57	
24C:				
Frederick, very rocky---	northern red oak----	75	57	northern red oak,
	sugar maple-----	65	41	white oak,
	white oak-----	70	52	yellow-poplar
	yellow-poplar-----	90	90	
Caneyville, very rocky-----	northern red oak----	65	47	northern red oak,
	black oak-----	60	43	eastern white
	white oak-----	60	43	pine, black oak,
	hickory-----	55	35	white oak,
	red maple-----	55	---	yellow-poplar
	yellow-poplar-----	80	70	
	eastern redcedar----	45	57	

# Soil Survey of Rockbridge County, Virginia

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume	
			of wood fiber cu ft/ac	
24E:				
Frederick, very rocky---	northern red oak----	75	57	northern red oak,
	sugar maple-----	65	41	white oak,
	white oak-----	70	52	yellow-poplar
	yellow-poplar-----	90	90	
Caneyville, very rocky-----	northern red oak----	65	47	northern red oak,
	black oak-----	60	43	eastern white
	white oak-----	60	43	pine, black oak,
	hickory-----	55	35	white oak,
	red maple-----	55	---	yellow-poplar
	yellow-poplar-----	80	70	
	eastern redcedar----	45	57	
25C:				
Frederick-----	northern red oak----	75	57	northern red oak,
	sugar maple-----	65	41	white oak,
	white oak-----	70	52	yellow-poplar
	yellow-poplar-----	90	90	
Watahala-----	northern red oak----	75	57	northern red oak,
	red maple-----	70	---	eastern white
	sugar maple-----	70	44	pine, white oak,
	white oak-----	75	57	yellow-poplar
	yellow-poplar-----	85	80	
25D:				
Frederick-----	northern red oak----	75	57	northern red oak,
	sugar maple-----	65	41	white oak,
	white oak-----	70	52	yellow-poplar
	yellow-poplar-----	90	90	
Watahala-----	northern red oak----	75	57	northern red oak,
	red maple-----	70	---	eastern white
	sugar maple-----	70	44	pine, white oak,
	white oak-----	75	57	yellow-poplar
	yellow-poplar-----	85	80	
25E:				
Frederick-----	northern red oak----	75	57	northern red oak,
	sugar maple-----	65	41	white oak,
	white oak-----	70	52	yellow-poplar
	yellow-poplar-----	90	90	
Watahala-----	northern red oak----	75	57	northern red oak,
	red maple-----	70	---	eastern white
	sugar maple-----	70	44	pine, white oak,
	white oak-----	75	57	yellow-poplar
	yellow-poplar-----	85	80	
26A:				
Gladehill-----	yellow-poplar-----	85	81	black walnut,
	American sycamore----	75	---	eastern white
	black locust-----	75	57	pine,
	black walnut-----	75	53	yellow-poplar
	red maple-----	70	---	



# Soil Survey of Rockbridge County, Virginia

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
27B:				
Groseclose-----	northern red oak----	75	57	northern red oak,
	white oak-----	70	52	eastern white
	yellow-poplar-----	90	90	pine, white oak,
	red maple-----	65	---	yellow-poplar
	sugar maple-----	65	41	
	eastern white pine--	85	162	
27C:				
Groseclose-----	northern red oak----	75	57	northern red oak,
	white oak-----	70	52	eastern white
	yellow-poplar-----	90	90	pine, white oak,
	red maple-----	65	---	yellow-poplar
	sugar maple-----	65	41	
	eastern white pine--	85	162	
27D:				
Groseclose-----	northern red oak----	75	57	northern red oak,
	white oak-----	70	52	eastern white
	yellow-poplar-----	90	90	pine, white oak,
	red maple-----	65	---	yellow-poplar
	sugar maple-----	65	41	
	eastern white pine--	85	162	
28E:				
Groseclose-----	northern red oak----	75	57	northern red oak,
	white oak-----	70	52	eastern white
	yellow-poplar-----	90	90	pine, white oak,
	red maple-----	65	---	yellow-poplar
	sugar maple-----	65	41	
	eastern white pine--	85	162	
Needmore-----	northern red oak----	70	52	black oak,
	black oak-----	70	52	northern red oak,
	black locust-----	75	57	sugar maple,
	sugar maple-----	65	42	white ash,
	yellow-poplar-----	80	71	yellow-poplar
	white ash-----	70	45	
29C:				
Groseclose-----	northern red oak----	75	57	northern red oak,
	white oak-----	70	52	eastern white
	yellow-poplar-----	90	90	pine, white oak,
	red maple-----	65	---	yellow-poplar
	sugar maple-----	65	41	
	eastern white pine--	85	162	
Needmore-----	northern red oak----	70	52	black oak,
	black oak-----	70	52	northern red oak,
	black locust-----	75	57	sugar maple,
	sugar maple-----	65	42	white ash,
	yellow-poplar-----	80	71	yellow-poplar
	white ash-----	70	45	
Urban land.				
30A:				
Holly-----	red maple-----	80	---	swamp white oak,
	swamp white oak----	75	57	sweetgum
	sweetgum-----	75	---	

# Soil Survey of Rockbridge County, Virginia

Table 8.—Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
30A: Orrville-----	black walnut----- American sycamore--- red maple-----	75 55 70	53 --- ---	walnut, sweetgum
31A: Ingledove-----	yellow-poplar----- walnut----- white ash----- American sycamore--- green ash----- red maple-----	115 80 95 85 --- 70	130 62 70 --- --- ---	white ash, eastern white pine, walnut, yellow-poplar
32A: Irongate-----	yellow-poplar----- black locust----- red maple----- black walnut----- American sycamore---	95 85 80 85 85	98 65 --- --- ---	black walnut, eastern white pine, yellow-poplar
33C: Litz-----	northern red oak--- black oak----- white oak----- chestnut oak----- hickory-----	65 60 60 60 55	47 43 43 43 35	northern red oak, chestnut oak, black oak, white oak
Chiswell-----	chestnut oak----- scarlet oak----- black oak----- white oak----- Virginia pine----- shortleaf pine-----	50 50 50 50 50 50	35 35 35 35 67 67	chestnut oak, eastern white pine, black oak, white oak, shortleaf pine
Groseclose-----	northern red oak--- white oak----- yellow-poplar----- red maple----- sugar maple----- eastern white pine--	75 70 90 65 65 85	57 52 90 --- 41 162	northern red oak, eastern white pine, white oak, yellow-poplar
33E: Litz-----	northern red oak--- black oak----- white oak----- chestnut oak----- hickory-----	65 60 60 60 55	47 43 43 43 35	northern red oak, chestnut oak, black oak, white oak
Chiswell-----	chestnut oak----- scarlet oak----- black oak----- white oak----- Virginia pine----- shortleaf pine-----	50 50 50 50 50 50	35 35 35 35 67 67	chestnut oak, eastern white pine, black oak, white oak, shortleaf pine
Groseclose-----	northern red oak--- white oak----- yellow-poplar----- red maple----- sugar maple----- eastern white pine--	75 70 90 65 65 85	57 52 90 --- 41 162	northern red oak, eastern white pine, white oak, yellow-poplar

# Soil Survey of Rockbridge County, Virginia

Table 8.—Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
33F:				
Litz-----	northern red oak----	65	47	northern red oak,
	black oak-----	60	43	chestnut oak,
	white oak-----	60	43	black oak, white
	chestnut oak-----	60	43	oak
	hickory-----	55	35	
Chiswell-----	chestnut oak-----	50	35	chestnut oak,
	scarlet oak-----	50	35	eastern white
	black oak-----	50	35	pine, black oak,
	white oak-----	50	35	white oak, pitch
	Virginia pine-----	50	67	pine, shortleaf
	pitch pine-----	50	67	pine
	shortleaf pine-----	50	67	
Groseclose-----	northern red oak----	75	57	northern red oak,
	white oak-----	70	52	eastern white
	yellow-poplar-----	90	90	pine, white oak,
	red maple-----	65	---	yellow-poplar
	sugar maple-----	65	41	
	eastern white pine--	85	162	
34C:				
Litz, very stony-----	northern red oak----	65	47	northern red oak,
	black oak-----	60	43	chestnut oak,
	white oak-----	60	43	black oak, white
	chestnut oak-----	60	43	oak
	hickory-----	55	35	
Needmore, very stony----	northern red oak----	70	52	black oak,
	black oak-----	70	52	northern red oak,
	black locust-----	75	57	sugar maple,
	sugar maple-----	65	42	white ash,
	yellow-poplar-----	80	71	yellow-poplar
	white ash-----	70	45	
34E:				
Litz, very stony-----	northern red oak----	65	47	northern red oak,
	black oak-----	60	43	chestnut oak,
	white oak-----	60	43	black oak, white
	chestnut oak-----	60	43	oak
	hickory-----	55	35	
Needmore, very stony----	northern red oak----	70	52	black oak,
	black oak-----	70	52	northern red oak,
	black locust-----	75	57	sugar maple,
	sugar maple-----	65	42	white ash,
	yellow-poplar-----	80	71	yellow-poplar
	white ash-----	70	45	
34F:				
Litz, very stony-----	northern red oak----	65	47	northern red oak,
	black oak-----	60	43	chestnut oak,
	white oak-----	60	43	black oak, white
	chestnut oak-----	60	43	oak
	hickory-----	55	35	
Needmore, very stony----	northern red oak----	70	52	black oak,
	black oak-----	70	52	northern red oak,
	black locust-----	75	57	sugar maple,
	sugar maple-----	65	42	white ash,
	yellow-poplar-----	80	71	yellow-poplar
	white ash-----	70	45	

# Soil Survey of Rockbridge County, Virginia

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
35C:				
Lodi-----	northern red oak----	75	57	black walnut,
	sugar maple-----	65	41	eastern white
	white oak-----	70	52	pine,
	yellow-poplar-----	90	90	yellow-poplar
McClung-----	black oak-----	80	62	black oak,
	yellow-poplar-----	90	90	northern red oak,
	white oak-----	80	62	white oak,
	scarlet oak-----	80	62	yellow-poplar
	chestnut oak-----	80	62	
	northern red oak----	80	62	
Lily-----	black oak-----	70	52	black oak, eastern
	yellow-poplar-----	80	71	white pine,
	northern red oak----	70	52	northern red oak,
	white oak-----	70	52	white oak,
	chestnut oak-----	70	52	yellow-poplar
	eastern white pine--	80	144	
35E:				
Lodi-----	northern red oak----	75	57	black walnut,
	sugar maple-----	65	41	eastern white
	white oak-----	70	52	pine,
	yellow-poplar-----	90	90	yellow-poplar
McClung-----	black oak-----	80	62	black oak,
	yellow-poplar-----	90	90	northern red oak,
	white oak-----	80	62	white oak,
	scarlet oak-----	80	62	yellow-poplar
	chestnut oak-----	80	62	
	northern red oak----	80	62	
Lily-----	black oak-----	70	52	black oak, eastern
	yellow-poplar-----	80	71	white pine,
	northern red oak----	70	52	northern red oak,
	white oak-----	70	52	white oak,
	chestnut oak-----	70	52	yellow-poplar
	eastern white pine--	80	144	
36C:				
Lostcove, extremely stony-----	chestnut oak-----	75	57	black oak,
	white oak-----	75	57	northern red oak,
	black oak-----	75	57	white oak,
	northern red oak----	75	57	yellow-poplar
	yellow-poplar-----	85	81	
	pitch pine-----	75	114	
	scarlet oak-----	75	57	
37E:				
Lostcove, very stony----	chestnut oak-----	75	57	black oak,
	white oak-----	75	57	northern red oak,
	black oak-----	75	57	white oak,
	northern red oak----	75	57	yellow-poplar
	yellow-poplar-----	85	81	
	pitch pine-----	75	114	
	scarlet oak-----	75	57	

# Soil Survey of Rockbridge County, Virginia

Table 8.—Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume	
			of wood fiber cu ft/ac	
37F: Lostcove, very stony----	chestnut oak-----	75	57	black oak, northern red oak, white oak, yellow-poplar
	white oak-----	75	57	
	black oak-----	75	57	
	northern red oak----	75	57	
	yellow-poplar-----	85	81	
	pitch pine-----	75	114	
	scarlet oak-----	75	57	
38E: Marbleyard, extremely stony-----	black oak-----	55	39	black oak, chestnut oak, Virginia pine, white oak
	chestnut oak-----	55	39	
	pitch pine-----	55	79	
	scarlet oak-----	55	39	
	Virginia pine-----	55	79	
	white oak-----	55	39	
Rock outcrop.				
39F: Marbleyard, extremely stony-----	black oak-----	55	39	black oak, chestnut oak, Virginia pine, white oak
	chestnut oak-----	55	39	
	pitch pine-----	55	79	
	scarlet oak-----	55	39	
	Virginia pine-----	55	79	
	white oak-----	55	39	
Sherando, extremely stony-----	eastern white pine--	70	120	northern red oak, yellow-poplar
	northern red oak----	60	43	
	shortleaf pine-----	60	90	
	yellow-poplar-----	70	57	
Rock outcrop.				
39G: Marbleyard, extremely stony-----	black oak-----	55	39	black oak, chestnut oak, Virginia pine, white oak
	chestnut oak-----	55	39	
	pitch pine-----	55	79	
	scarlet oak-----	55	39	
	Virginia pine-----	55	79	
	white oak-----	55	39	
Sherando, extremely stony-----	eastern white pine--	70	120	northern red oak, yellow-poplar
	northern red oak----	60	43	
	shortleaf pine-----	60	90	
	yellow-poplar-----	70	57	
Rock outcrop.				
40A: Maurertown-----	Virginia pine-----	75	114	swamp white oak, white ash
	pin oak-----	80	62	
	sweetgum-----	75	115	
	red maple-----	80	---	
	swamp white oak-----	75	57	
	white ash-----	80	62	

# Soil Survey of Rockbridge County, Virginia

Table 8.—Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
40A: Toms-----	pin oak----- red maple----- sweetgum-----	80 50 95	62 --- 114	pin oak
41C: McCamy, very stony-----	scarlet oak----- shortleaf pine----- Virginia pine----- white oak----- yellow-poplar-----	66 57 70 65 85	47 79 108 47 80	eastern white pine, white oak, yellow-poplar
42F: McClung, very stony-----	black oak----- yellow-poplar----- white oak----- scarlet oak----- chestnut oak----- northern red oak----	80 90 80 80 80 80	62 90 62 62 62 62	black oak, northern red oak, white oak, yellow-poplar
Caneyville, very stony-----	northern red oak---- black oak----- white oak----- hickory----- red maple----- yellow-poplar----- eastern redcedar----	65 60 60 55 55 80 45	47 43 43 35 --- 70 57	northern red oak, eastern white pine, black oak, white oak, yellow-poplar
Dekalb, very stony-----	chestnut oak----- black oak----- scarlet oak----- pitch pine----- Virginia pine-----	60 60 60 60 60	43 43 43 90 90	black oak, chestnut oak, scarlet oak
43C: Needmore-----	northern red oak---- black oak----- black locust----- sugar maple----- yellow-poplar----- white ash-----	70 70 75 65 80 70	52 52 57 42 71 45	black oak, northern red oak, sugar maple, white ash, yellow-poplar
Opequon-----	chestnut oak----- eastern redcedar---- scarlet oak----- white oak-----	50 35 50 50	35 40 35 35	chestnut oak, eastern white pine, white oak
43E: Needmore-----	northern red oak---- black oak----- black locust----- sugar maple----- yellow-poplar----- white ash-----	70 70 75 65 80 70	52 52 57 42 71 45	black oak, northern red oak, sugar maple, white ash, yellow-poplar
Opequon-----	chestnut oak----- eastern redcedar---- scarlet oak----- white oak-----	50 35 50 50	35 40 35 35	chestnut oak, eastern white pine, white oak

# Soil Survey of Rockbridge County, Virginia

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
43F: Needmore-----	northern red oak----	70	52	black oak, northern red oak, sugar maple, white ash, yellow-poplar
	black oak-----	70	52	
	black locust-----	75	57	
	sugar maple-----	65	42	
	yellow-poplar-----	80	71	
	white ash-----	70	45	
Opequon-----	chestnut oak-----	50	35	chestnut oak, eastern white pine, white oak
	eastern redcedar----	35	40	
	scarlet oak-----	50	35	
	white oak-----	50	35	
44E: Needmore-----	northern red oak----	70	52	black oak, northern red oak, sugar maple, white ash, yellow-poplar
	black oak-----	70	52	
	black locust-----	75	57	
	sugar maple-----	65	42	
	yellow-poplar-----	80	71	
	white ash-----	70	45	
Urban land.				
45B: Nicelytown-----	white oak-----	70	52	black oak, eastern white pine, white oak
	black oak-----	70	52	
	red maple-----	70	52	
	eastern white pine--	80	144	
	Virginia pine-----	70	108	
46B: Nicelytown-----	white oak-----	70	52	black oak, eastern white pine, white oak
	black oak-----	70	52	
	red maple-----	70	52	
	eastern white pine--	80	144	
	Virginia pine-----	70	108	
Urban land.				
47C: Oriskany, extremely stony-----	white oak-----	70	52	black oak, white oak, yellow- poplar
	black oak-----	70	52	
	scarlet oak-----	70	52	
	chestnut oak-----	70	52	
	yellow-poplar-----	80	71	
Laidig, extremely stony-----	northern red oak----	80	57	northern red oak, white oak, yellow-poplar
	white oak-----	80	62	
	yellow-poplar-----	90	90	
47E: Oriskany, extremely stony-----	black oak-----	75	57	black oak, northern red oak, white oak, yellow-poplar
	chestnut oak-----	75	57	
	white oak-----	75	57	
	scarlet oak-----	75	57	
	yellow-poplar-----	85	81	
	northern red oak----	75	57	
	pitch pine-----	75	114	



# Soil Survey of Rockbridge County, Virginia

Table 8.—Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
47E: Laidig, extremely stony-----	northern red oak----	80	57	northern red oak,
	white oak-----	80	62	white oak,
	yellow-poplar-----	90	90	yellow-poplar
48F: Oriskany, extremely stony-----	black oak-----	75	57	black oak,
	chestnut oak-----	75	57	northern red oak,
	white oak-----	75	57	white oak,
	scarlet oak-----	75	57	yellow-poplar
	yellow-poplar-----	85	81	
	northern red oak----	75	57	
	pitch pine-----	75	114	
49C: Oriskany, extremely stony-----	white oak-----	75	57	black oak,
	northern red oak----	75	57	northern red oak,
	black oak-----	75	57	white oak,
	chestnut oak-----	75	57	yellow-poplar
	yellow-poplar-----	85	81	
Murrill, extremely stony-----	northern red oak----	80	62	black locust,
	yellow-poplar-----	90	90	northern red oak,
	white oak-----	80	62	white oak,
	chestnut oak-----	80	62	yellow-poplar
	black oak-----	80	62	
49E: Oriskany, extremely stony-----	chestnut oak-----	75	57	black oak,
	white oak-----	75	57	northern red oak,
	black oak-----	75	57	white oak,
	northern red oak----	75	57	yellow-poplar
	yellow-poplar-----	85	81	
	pitch pine-----	75	114	
	scarlet oak-----	75	57	
Murrill, extremely stony-----	black oak-----	80	62	black oak,
	chestnut oak-----	80	62	northern red oak,
	white oak-----	80	62	white oak,
	hickory-----	75	53	yellow-poplar
	yellow-poplar-----	90	90	
	northern red oak----	80	62	
	scarlet oak-----	80	62	
49F: Oriskany, extremely stony-----	chestnut oak-----	75	57	black oak,
	white oak-----	75	57	northern red oak,
	black oak-----	75	57	white oak,
	northern red oak----	75	57	yellow-poplar
	yellow-poplar-----	85	81	
	pitch pine-----	75	114	
	scarlet oak-----	75	57	

# Soil Survey of Rockbridge County, Virginia

Table 8.—Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
49F: Murrill, extremely stony-----	black oak-----	80	62	black oak,
	chestnut oak-----	80	62	northern red oak,
	white oak-----	80	62	white oak,
	hickory-----	75	53	yellow-poplar
	yellow-poplar-----	90	90	
	northern red oak----	80	62	
	scarlet oak-----	80	62	
50E: Peaks, very rocky-----	chestnut oak-----	55	40	eastern white
	eastern white pine--	70	120	pine, northern
	northern red oak----	62	46	red oak
	scarlet oak-----	60	44	
	Virginia pine-----	57	81	
Edneytown, very rocky---	eastern white pine--	100	185	eastern white
	northern red oak----	80	62	pine, northern
	white oak-----	60	43	red oak, white
	yellow-poplar-----	90	85	oak, yellow- poplar
50F: Peaks, very rocky-----	chestnut oak-----	55	40	eastern white
	eastern white pine--	70	120	pine, northern
	northern red oak----	62	46	red oak
	scarlet oak-----	60	44	
	Virginia pine-----	57	81	
Edneytown, very rocky---	eastern white pine--	100	185	eastern white
	northern red oak----	80	62	pine, northern
	white oak-----	60	43	red oak, white
	yellow-poplar-----	90	85	oak, yellow- poplar
51A: Philo-----	white ash-----	85	65	northern red oak,
	black walnut-----	80	62	eastern white
	American sycamore---	80	---	pine, white oak,
	green ash-----	---	---	yellow-poplar,
	red maple-----	---	---	white ash
52C: Pignut, very stony-----	eastern white pine--	80	144	eastern white
	northern red oak----	70	52	pine, northern
	Virginia pine-----	70	108	red oak,
	yellow-poplar-----	80	70	yellow-poplar
Myersville, very stony-----	northern red oak----	85	65	eastern white
	yellow-poplar-----	95	98	pine, northern
				red oak,
				yellow-poplar
53E: Pignut, very stony-----	eastern white pine--	80	144	eastern white
	northern red oak----	70	52	pine, northern
	Virginia pine-----	70	108	red oak,
	yellow-poplar-----	80	70	yellow-poplar

# Soil Survey of Rockbridge County, Virginia

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume	
			of wood fiber cu ft/ac	
53F: Pignut, very stony-----	eastern white pine--	80	144	eastern white
	northern red oak----	70	52	pine, northern
	Virginia pine-----	70	108	red oak,
	yellow-poplar-----	80	70	yellow-poplar
54. Pits and Dumps.				
55A: Pope-----	northern red oak----	80	62	northern red oak,
	yellow-poplar-----	95	98	eastern white
	white oak-----	80	62	pine, white oak,
				yellow-poplar
56G: Rock outcrop.				
Opequon-----	chestnut oak-----	50	35	---
	eastern redcedar----	35	40	
	scarlet oak-----	50	35	
	white oak-----	50	35	
57A: Sensabaugh-----	shortleaf pine-----	80	120	black walnut,
	Virginia pine-----	75	114	yellow-poplar
	white oak-----	80	62	
	yellow-poplar-----	100	107	
Lobdell-----	black walnut-----	80	62	walnut,
	American sycamore----	80	---	yellow-poplar
	green ash-----	---	---	
	red maple-----	---	---	
Derroc-----	eastern white pine--	85	162	eastern white
	white oak-----	75	57	pine, white oak,
	scarlet oak-----	75	57	yellow-poplar
	yellow-poplar-----	85	80	
	Virginia pine-----	75	114	
	American sycamore----	80	---	
58B: Shottower-----	northern red oak----	75	57	northern red oak,
	red maple-----	65	---	eastern white
	sugar maple-----	65	41	pine, white oak,
	white oak-----	70	52	yellow-poplar
	yellow-poplar-----	90	90	
58C: Shottower-----	northern red oak----	75	57	northern red oak,
	red maple-----	65	---	eastern white
	sugar maple-----	65	41	pine, white oak,
	white oak-----	70	52	yellow-poplar
	yellow-poplar-----	90	90	
58D: Shottower-----	northern red oak----	75	57	northern red oak,
	red maple-----	65	---	eastern white
	sugar maple-----	65	41	pine, white oak,
	white oak-----	70	52	yellow-poplar
	yellow-poplar-----	90	90	

# Soil Survey of Rockbridge County, Virginia

Table 8.—Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume	
			of wood fiber cu ft/ac	
59E:				
Shottower-----	northern red oak----	75	57	northern red oak,
	red maple-----	65	---	eastern white
	sugar maple-----	65	41	pine, white oak,
	white oak-----	70	52	yellow-poplar
	yellow-poplar-----	90	90	
60C:				
Shottower-----	northern red oak----	75	57	northern red oak,
	red maple-----	65	---	eastern white
	sugar maple-----	65	41	pine, white oak,
	white oak-----	70	52	yellow-poplar
	yellow-poplar-----	90	90	
Urban land.				
61B:				
Slabtown-----	northern red oak----	70	52	northern red oak,
	black walnut-----	80	62	black walnut,
	white oak-----	75	56	eastern white
	yellow-poplar-----	85	80	pine, sugar
				maple, white oak,
				yellow-poplar
61C:				
Slabtown-----	northern red oak----	70	52	northern red oak,
	black walnut-----	80	62	black walnut,
	white oak-----	75	56	eastern white
	yellow-poplar-----	85	80	pine, sugar
				maple, white oak,
				yellow-poplar
62.				
Slickens.				
63E:				
Stumptown, extremely stony-----	black oak-----	60	43	black oak,
	chestnut oak-----	60	43	chestnut oak,
	pitch pine-----	60	90	Virginia pine,
	scarlet oak-----	60	43	white oak
	Virginia pine-----	60	90	
	white oak-----	60	43	
Marbleyard, extremely stony-----	black oak-----	55	39	black oak,
	chestnut oak-----	55	39	chestnut oak,
	pitch pine-----	55	79	Virginia pine,
	scarlet oak-----	55	39	white oak
	Virginia pine-----	55	79	
	white oak-----	55	39	
Rock outcrop.				
63F:				
Stumptown, extremely stony-----	black oak-----	60	43	black oak,
	chestnut oak-----	60	43	chestnut oak,
	pitch pine-----	60	90	Virginia pine,
	scarlet oak-----	60	43	white oak
	Virginia pine-----	60	90	
	white oak-----	60	43	

# Soil Survey of Rockbridge County, Virginia

Table 8.—Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
63F: Marbleyard, extremely stony-----	black oak----- chestnut oak----- pitch pine----- scarlet oak----- Virginia pine----- white oak-----	55 55 55 55 55 55	39 39 79 39 79 39	black oak, chestnut oak, Virginia pine, white oak
Rock outcrop.				
63G: Stumptown, extremely stony-----	black oak----- chestnut oak----- pitch pine----- scarlet oak----- Virginia pine----- white oak-----	60 60 60 60 60 60	43 43 90 43 90 43	black oak, chestnut oak, Virginia pine, white oak
Marbleyard, extremely stony-----	black oak----- chestnut oak----- pitch pine----- scarlet oak----- Virginia pine----- white oak-----	55 55 55 55 55 55	39 39 79 39 79 39	black oak, chestnut oak, Virginia pine, white oak
Rock outcrop.				
64E: Stumptown, very stony---	black oak----- chestnut oak----- pitch pine----- scarlet oak----- Virginia pine----- white oak-----	60 60 60 60 60 60	43 43 90 43 90 43	black oak, chestnut oak, Virginia pine, white oak
Sylco, very stony-----	eastern white pine-- shortleaf pine----- Virginia pine-----	70 60 60	120 90 86	eastern white pine, shortleaf pine, Virginia pine
64F: Stumptown, very stony---	black oak----- chestnut oak----- pitch pine----- scarlet oak----- Virginia pine----- white oak-----	60 60 60 60 60 60	43 43 90 43 90 43	black oak, chestnut oak, Virginia pine, white oak
Sylco, very stony-----	eastern white pine-- shortleaf pine----- Virginia pine-----	70 60 60	120 90 86	eastern white pine, shortleaf pine, Virginia pine
65E: Sylco, very rocky-----	eastern white pine-- shortleaf pine----- Virginia pine-----	70 60 60	120 90 86	eastern white pine, shortleaf pine, Virginia pine

# Soil Survey of Rockbridge County, Virginia

Table 8.—Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume	
			of wood fiber cu ft/ac	
65E: Marbleyard, very rocky-----	black oak-----	55	39	black oak,
	chestnut oak-----	55	39	chestnut oak,
	pitch pine-----	55	79	Virginia pine,
	scarlet oak-----	55	39	white oak
	Virginia pine-----	55	79	
	white oak-----	55	39	
65F: Sylco, very rocky-----	eastern white pine--	70	120	eastern white
	shortleaf pine-----	60	90	pine, shortleaf
	Virginia pine-----	60	86	pine, Virginia
				pine
Marbleyard, very rocky-----	black oak-----	55	39	black oak,
	chestnut oak-----	55	39	chestnut oak,
	pitch pine-----	55	79	Virginia pine,
	scarlet oak-----	55	39	white oak
	Virginia pine-----	55	79	
	white oak-----	55	39	
65G: Sylco, very rocky-----	eastern white pine--	70	120	eastern white
	shortleaf pine-----	60	90	pine, shortleaf
	Virginia pine-----	60	86	pine, Virginia
				pine
Marbleyard, very rocky-----	black oak-----	55	39	black oak,
	chestnut oak-----	55	39	chestnut oak,
	pitch pine-----	55	79	Virginia pine,
	scarlet oak-----	55	39	white oak
	Virginia pine-----	55	79	
	white oak-----	55	39	
66C: Thunder, very bouldery-----	yellow-poplar-----	100	107	northern red oak,
	northern red oak----	93	72	yellow-poplar
	sugar maple-----	80	62	
Saunook, very bouldery-----	yellow-poplar-----	110	123	northern red oak,
	northern red oak----	95	75	yellow-poplar
	sugar maple-----	85	65	
66E: Thunder, very bouldery-----	yellow-poplar-----	100	107	northern red oak,
	northern red oak----	93	72	yellow-poplar
	sugar maple-----	80	62	
Saunook, very bouldery-----	yellow-poplar-----	110	123	northern red oak,
	northern red oak----	95	75	yellow-poplar
	sugar maple-----	85	65	

# Soil Survey of Rockbridge County, Virginia

Table 8.—Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume	
			of wood fiber cu ft/ac	
66F:				
Thunder, very bouldery-----	yellow-poplar-----	100	107	northern red oak, yellow-poplar
	northern red oak----	93	72	
	sugar maple-----	80	62	
Saunook, very bouldery-----	yellow-poplar-----	110	123	northern red oak, yellow-poplar
	northern red oak----	95	75	
	sugar maple-----	85	65	
67C:				
Tumbling-----	northern red oak----	65	47	northern red oak, white oak, yellow-poplar
	Virginia pine-----	65	100	
	white oak-----	65	47	
	yellow-poplar-----	75	60	
	scarlet oak-----	65	47	
Vanella-----	northern red oak----	65	47	northern red oak, white oak, yellow-poplar
	Virginia pine-----	65	100	
	white oak-----	65	47	
	yellow-poplar-----	75	60	
	scarlet oak-----	65	47	
67D:				
Tumbling-----	northern red oak----	65	47	northern red oak, white oak, yellow-poplar
	Virginia pine-----	65	100	
	white oak-----	65	47	
	yellow-poplar-----	75	60	
	scarlet oak-----	65	47	
Vanella-----	northern red oak----	65	47	northern red oak, white oak, yellow-poplar
	Virginia pine-----	65	100	
	white oak-----	65	47	
	yellow-poplar-----	75	60	
	scarlet oak-----	65	47	
67E:				
Tumbling-----	northern red oak----	65	47	northern red oak, white oak, yellow-poplar
	Virginia pine-----	65	100	
	white oak-----	65	47	
	yellow-poplar-----	75	60	
	scarlet oak-----	65	47	
Vanella-----	northern red oak----	65	47	northern red oak, white oak, yellow-poplar
	Virginia pine-----	65	100	
	white oak-----	65	47	
	yellow-poplar-----	75	60	
	scarlet oak-----	65	47	
68D:				
Tumbling-----	eastern white pine--	80	143	eastern white pine, northern red oak, yellow-poplar
	northern red oak----	70	52	
	yellow-poplar-----	90	86	
Vanella-----	eastern white pine--	80	143	eastern white pine, northern red oak, yellow-poplar
	northern red oak----	70	52	
	yellow-poplar-----	90	86	
Urban land.				



# Soil Survey of Rockbridge County, Virginia

Table 8.—Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
69A:				
Tygart-----	black oak-----	80	62	black oak, eastern
	northern red oak----	80	57	white pine,
	red maple-----	75	53	northern red oak,
	white ash-----	80	62	Virginia pine
Purdy-----	Virginia pine-----	75	114	swamp white oak,
	pin oak-----	80	62	white ash
	sweetgum-----	75	115	
	red maple-----	80	---	
	swamp white oak----	75	57	
	white ash-----	80	62	
70.				
Udorthents, refuse substratum.				
71.				
Udorthents-Urban land.				
72C:				
Unaka, very stony-----	northern red oak----	72	54	northern red oak,
	shagbark hickory----	---	---	black cherry,
	white ash-----	65	40	sugar maple,
	black cherry-----	80	---	white ash,
				hickory
Plott, very stony-----	northern red oak----	75	57	northern red oak,
	shagbark hickory----	---	---	black cherry,
	white ash-----	65	40	sugar maple,
	black cherry-----	80	---	white ash,
				hickory
72E:				
Unaka, very stony-----	northern red oak----	72	54	northern red oak,
	shagbark hickory----	---	---	black cherry,
	white ash-----	65	40	sugar maple,
	black cherry-----	80	---	white ash,
				hickory
Plott, very stony-----	northern red oak----	75	57	northern red oak,
	shagbark hickory----	---	---	black cherry,
	white ash-----	65	40	sugar maple,
	black cherry-----	80	---	white ash,
				hickory
73C:				
Vanella, very stony-----	northern red oak----	65	47	northern red oak,
	Virginia pine-----	65	100	white oak,
	white oak-----	65	47	yellow-poplar
	yellow-poplar-----	75	60	
	scarlet oak-----	65	47	
Tumbling, very stony----	northern red oak----	65	47	northern red oak,
	Virginia pine-----	65	100	white oak,
	white oak-----	65	47	yellow-poplar
	yellow-poplar-----	75	60	
	scarlet oak-----	65	47	

# Soil Survey of Rockbridge County, Virginia

Table 8.—Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
73E:				
Vanella, very stony----	northern red oak----	65	47	northern red oak,
	Virginia pine-----	65	100	white oak,
	white oak-----	65	47	yellow-poplar
	yellow-poplar-----	75	60	
	scarlet oak-----	65	47	
Tumbling, very stony----	northern red oak----	65	47	northern red oak,
	Virginia pine-----	65	100	white oak,
	white oak-----	65	47	yellow-poplar
	yellow-poplar-----	75	60	
	scarlet oak-----	65	47	
74C:				
Watahala, very stony----	northern red oak----	75	57	northern red oak,
	red maple-----	70	---	eastern white
	sugar maple-----	70	44	pine, white oak,
	white oak-----	75	57	yellow-poplar
	yellow-poplar-----	85	80	
Frederick, very stony---	northern red oak----	75	57	northern red oak,
	sugar maple-----	65	41	white oak,
	white oak-----	70	52	yellow-poplar
	yellow-poplar-----	90	90	
74E:				
Watahala, very stony----	northern red oak----	75	57	northern red oak,
	red maple-----	70	---	eastern white
	sugar maple-----	70	44	pine, white oak,
	white oak-----	75	57	yellow-poplar
	yellow-poplar-----	85	80	
Frederick, very stony---	northern red oak----	75	57	northern red oak,
	sugar maple-----	65	41	white oak,
	white oak-----	70	52	yellow-poplar
	yellow-poplar-----	90	90	
74F:				
Watahala, very stony----	northern red oak----	75	57	northern red oak,
	red maple-----	70	---	eastern white
	sugar maple-----	70	44	pine, white oak,
	white oak-----	75	57	yellow-poplar
	yellow-poplar-----	85	80	
Frederick, very stony---	northern red oak----	75	57	northern red oak,
	sugar maple-----	65	41	white oak,
	white oak-----	70	52	yellow-poplar
	yellow-poplar-----	90	90	
75E:				
Weikert-----	eastern white pine--	60	97	black oak, eastern
	chestnut oak-----	50	34	white pine, white
	white oak-----	50	34	oak
	black oak-----	50	34	
	Table Mountain pine-	50	67	
	pitch pine-----	50	67	
	Virginia pine-----	50	67	
	scarlet oak-----	50	34	

# Soil Survey of Rockbridge County, Virginia

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
75E:				
Berks-----	chestnut oak-----	60	43	black oak, eastern
	white oak-----	60	43	white pine, white
	scarlet oak-----	60	43	oak
	eastern white pine--	70	120	
	Virginia pine-----	60	91	
	black oak-----	60	43	
	pitch pine-----	60	90	
Rough-----	chestnut oak-----	40	26	black oak, eastern
	scarlet oak-----	40	26	white pine, white
	eastern white pine--	50	72	oak
	white oak-----	40	26	
	black oak-----	40	26	
	Table Mountain pine-	40	47	
	pitch pine-----	40	47	
	Virginia pine-----	40	47	
75F:				
Weikert-----	eastern white pine--	60	97	black oak, eastern
	chestnut oak-----	50	34	white pine, white
	white oak-----	50	34	oak
	black oak-----	50	34	
	Table Mountain pine-	50	67	
	pitch pine-----	50	67	
	Virginia pine-----	50	67	
	scarlet oak-----	50	34	
Berks-----	chestnut oak-----	60	43	black oak, eastern
	white oak-----	60	43	white pine, white
	scarlet oak-----	60	43	oak
	eastern white pine--	70	120	
	Virginia pine-----	60	91	
	black oak-----	60	43	
	pitch pine-----	60	90	
Rough-----	chestnut oak-----	40	26	black oak, eastern
	scarlet oak-----	40	26	white pine, white
	eastern white pine--	50	72	oak
	white oak-----	40	26	
	black oak-----	40	26	
	Table Mountain pine-	40	47	
	pitch pine-----	40	47	
	Virginia pine-----	40	47	
76G:				
Weikert-----	eastern white pine--	60	97	---
	chestnut oak-----	50	34	
	white oak-----	50	34	
	black oak-----	50	34	
	Table Mountain pine-	50	67	
	pitch pine-----	50	67	
	Virginia pine-----	50	67	
	scarlet oak-----	50	34	
Rough-----	chestnut oak-----	40	26	---
	scarlet oak-----	40	26	
	eastern white pine--	50	72	
	white oak-----	40	26	
	black oak-----	40	26	
	Table Mountain pine-	40	47	
	pitch pine-----	40	47	
	Virginia pine-----	40	47	

# Soil Survey of Rockbridge County, Virginia

Table 8.—Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
76G: Rock outcrop.				
77C: Wintergreen-----	eastern white pine--	95	172	eastern white
	northern red oak----	80	62	pine, loblolly
	yellow-poplar-----	90	85	pine, northern red oak, yellow-poplar
77D: Wintergreen-----	eastern white pine--	95	172	eastern white
	northern red oak----	80	62	pine, loblolly
	yellow-poplar-----	90	85	pine, northern red oak, yellow-poplar
77E: Wintergreen-----	eastern white pine--	95	172	eastern white
	northern red oak----	80	62	pine, loblolly
	yellow-poplar-----	90	85	pine, northern red oak, yellow-poplar
78E: Wintergreen, very stony-----	eastern white pine--	95	172	eastern white
	northern red oak----	80	62	pine, loblolly
	yellow-poplar-----	90	85	pine, northern red oak, yellow-poplar
79A: Wolfgap-----	yellow-poplar-----	95	98	black walnut,
	black locust-----	85	65	eastern white
	red maple-----	80	---	pine,
	black walnut-----	85	65	yellow-poplar
	American sycamore---	85	---	
80A: Wolfgap-----	yellow-poplar-----	95	98	black walnut,
	black locust-----	85	65	eastern white
	red maple-----	80	---	pine,
	black walnut-----	85	65	yellow-poplar
	American sycamore---	85	---	
Derroc-----	eastern white pine--	85	162	eastern white
	white oak-----	75	57	pine, white oak,
	scarlet oak-----	75	57	yellow-poplar
	yellow-poplar-----	85	80	
	Virginia pine-----	75	114	
	American sycamore---	80	---	
Urban land.				
W. Water.				

Table 9.-Forestland Management, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1A: Alonzville, rarely flooded-----	80	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
2B: Alonzville-----	80	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
3B: Alonzville-----	50	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
Urban land-----	45	Not rated		Not rated		Not rated	
4C: Berks-----	50	Moderate Restrictive layer Low strength	0.50 0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
Weikert-----	40	Severe Restrictive layer	1.00	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
5A: Botetourt-----	90	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
6A: Botetourt-----	50	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
Urban land-----	45	Not rated		Not rated		Not rated	
7A: Buckton-----	55	Severe Flooding Low strength	1.00 0.50	Poorly suited Flooding Low strength	1.00 0.50	Severe Low strength	1.00
Weaver-----	30	Severe Flooding Low strength	1.00 0.50	Poorly suited Flooding Low strength	1.00 0.50	Severe Low strength	1.00
8F: Caneyville-----	60	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Frederick-----	20	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
9C: Carbo, very rocky---	55	Moderate Restrictive layer Stickiness/slope Low strength	0.50 0.50 0.50	Moderately suited Slope Low strength; high plasticity index	0.50 0.50 0.50	Severe Low strength	1.00

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9C: Opequon, very rocky-----	30	Severe					
		Restrictive layer	1.00	Moderately suited		Severe	
		Stickiness/slope	0.50	Slope	0.50	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
9E: Carbo, very rocky---	50			Stickiness; high	0.50		
				plasticity index			
10F: Carbo-----	55	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
				Stickiness; high	0.50		



Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
10F: Opequon-----	25	Severe Slope	1.00	Poorly suited		Severe	
		Low strength	0.50	Low strength	1.00	Low strength	1.00
				Stickiness; high plasticity index	0.50		
Rock outcrop-----	15	Not rated		Not rated		Not rated	
11B: Cottonbend-----	85	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
11C: Cottonbend-----	85	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50	Severe Low strength	1.00
12A: Coursey, rarely flooded-----	80	Moderate Low strength	0.50	Moderately suited		Severe	
				Moderately suited	0.50	Low strength	1.00
13B: Coursey-----	80	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
14C: Dekalb, very stony-----	50	Moderate Restrictive layer Sandiness	0.50 0.50	Moderately suited Slope	0.50	Moderate Low strength	0.50

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14C: Lehew, very stony----	20	Moderate Restrictive layer	0.50	Moderately suited Slope	0.50	Moderate Low strength	0.50
Berks, very stony----	15	Moderate Restrictive layer Low strength	0.50 0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
14E: Dekalb, very stony-----	50	Moderate Slope Restrictive layer Sandiness	0.50 0.50 0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50
Lehew, very stony----	20	Moderate Slope Restrictive layer	0.50 0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50
Berks, very stony----	15	Moderate Slope Restrictive layer	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
14F: Dekalb, very stony-----	50	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Lehew, very stony----	20	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14F: Berks, very stony----	15	Severe Slope	1.00	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
15E: Dekalb, extremely stony-----	50	Moderate Slope Restrictive layer Stoniness Sandiness	0.50 0.50 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Moderate Low strength	0.50
Lehew, extremely stony-----	30	Moderate Slope Restrictive layer Stoniness	0.50 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Moderate Low strength	0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
15F: Dekalb, extremely stony-----	50	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Moderate Low strength	0.50
Lehew, extremely stony-----	20	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Moderate Low strength	0.50

Table 9.—Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15F: Rock outcrop-----	15	Not rated		Not rated		Not rated	
16C: Dekalb, very stony-----	60	Moderate Restrictive layer Sandiness	0.50 0.50	Moderately suited Slope	0.50	Moderate Low strength	0.50
Lily, very stony----	30	Moderate Restrictive layer Low strength	0.50 0.50	Moderately suited Slope	0.50	Moderate Low strength	0.50
16E: Dekalb, very stony-----	50	Moderate Slope Restrictive layer Sandiness	0.50 0.50 0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50
Lily, very stony----	40	Moderate Slope Restrictive layer	0.50 0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50
17F: Dekalb, very stony-----	75	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Lily, very stony----	20	Severe Slope Low strength	1.00 0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
18A: Derroc-----	85	Severe Flooding	1.00	Poorly suited Flooding	1.00	Slight Strength	0.10
19C: Edneytown-----	90	Slight		Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
19D: Edneytown-----	90	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
20C: Edneytown, very stony-----	60	Slight		Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
Peaks, very stony---	35	Moderate Restrictive layer Sandiness	0.50 0.50	Moderately suited Slope	0.50	Moderate Low strength	0.50
20E: Edneytown, very stony-----	60	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20E: Peaks, very stony----	35	Severe Restrictive layer Slope Sandiness	1.00 0.50 0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50
20F: Edneytown, very stony-----	60	Severe Slope	1.00	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Peaks, very stony----	35	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
21B: Escatawba-----	80	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
21C: Escatawba-----	80	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
22B: Frederick-----	85	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
22C: Frederick-----	80	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
22D: Frederick-----	80	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
23E: Frederick-----	65	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Caneyville-----	30	Severe Restrictive layer Slope Stickiness/slope	1.00 0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
24C: Frederick, very rocky-----	45	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
Caneyville, very rocky-----	35	Moderate Restrictive layer Stickiness/slope Low strength	0.50 0.50 0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
24E: Frederick, very rocky-----	40	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00



Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
24E: Caneyville, very rocky-----	38	Severe Restrictive layer Slope Stickiness/slope	1.00 0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
25C: Frederick-----	60	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
Watahala-----	30	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
25D: Frederick-----	45	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Watahala-----	35	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
25E: Frederick-----	50	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Watahala-----	40	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
26A: Gladehill-----	85	Severe Flooding	1.00	Poorly suited Flooding	1.00	Moderate Low strength	0.50
27B: Groseclose-----	80	Slight		Moderately suited Low strength	0.50	Severe Low strength	1.00
27C: Groseclose-----	80	Slight		Moderately suited Slope Low strength	0.50	Severe Low strength	1.00
27D: Groseclose-----	80	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00	Severe Low strength	1.00
28E: Groseclose-----	50	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00	Severe Low strength	1.00
Needmore-----	40	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00	Severe Low strength	1.00
29C: Groseclose-----	35	Slight		Moderately suited Slope Low strength	0.50	Severe Low strength	1.00

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29C: Needmore-----	30	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
Urban land-----	25	Not rated		Not rated		Not rated	
30A: Holly-----	50	Severe Flooding Wetness Low strength	1.00 1.00 0.50	Poorly suited Ponding Flooding Wetness Low strength	1.00 1.00 1.00 0.50	Severe Low strength Wetness	1.00 0.50
Orrville-----	45	Severe Flooding Wetness Low strength	1.00 0.75 0.50	Poorly suited Ponding Flooding Low strength	1.00 1.00 0.50	Severe Low strength	1.00
31A: Ingledove-----	85	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
32A: Irongate-----	85	Severe Flooding	1.00	Poorly suited Flooding	1.00	Moderate Low strength	0.50
33C: Litz-----	35	Moderate Restrictive layer Sandiness Low strength	0.50 0.50 0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33C: Chiswell-----	30	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
Groseclose-----	20	Slight		Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
33E: Litz-----	35	Moderate Slope Restrictive layer Sandiness	0.50 0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Chiswell-----	25	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Groseclose-----	25	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
33F: Litz-----	35	Severe Slope	1.00	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Chiswell-----	30	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33F: Groseclose-----	20	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
34C: Litz, very stony----	55	Moderate Restrictive layer Sandiness Low strength	0.50 0.50 0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
Needmore, very stony-----	35	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50	Severe Low strength	1.00
34E: Litz, very stony----	55	Moderate Slope Restrictive layer Sandiness	0.50 0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Needmore, very stony-----	35	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
34F: Litz, very stony----	55	Severe Slope	1.00	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34F: Needmore, very stony-----	35	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
35C: Lodi-----	40	Slight		Moderately suited Slope	0.50	Moderate Low strength	0.50
McClung-----	35	Slight		Moderately suited Slope	0.50	Moderate Low strength	0.50
Lily-----	20	Moderate Restrictive layer Low strength	0.50 0.50	Moderately suited Slope	0.50	Moderate Low strength	0.50
35E: Lodi-----	35	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50
McClung-----	30	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50
Lily-----	25	Moderate Slope Restrictive layer	0.50 0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
36C: Lostcove, extremely stony-----	80	Severe Stoniness	1.00	Moderately suited Slope Rock fragments	0.50 0.50	Slight Strength	0.10
37E: Lostcove, very stony-----	80	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
37F: Lostcove, very stony-----	80	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
38E: Marbleyard, extremely stony----	70	Moderate Slope Restrictive layer Stoniness	0.50 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Rock outcrop-----	15	Not rated		Not rated		Not rated	
39F: Marbleyard, extremely stony----	45	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10



Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
39F: Sherando, extremely stony-----	30	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Rock outcrop-----	20	Not rated		Not rated		Not rated	
39G: Marbleyard, extremely stony----	45	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Sherando, extremely stony-----	30	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Rock outcrop-----	20	Not rated		Not rated		Not rated	
40A: Maurertown-----	50	Severe Wetness Low strength Stickiness/slope	1.00 0.50 0.50	Poorly suited Ponding Wetness Low strength	1.00 1.00 0.50	Severe Low strength Wetness	1.00 0.50
Toms-----	45	Severe Wetness Low strength	1.00 0.50	Poorly suited Ponding Wetness Low strength	1.00 0.50 0.50	Severe Low strength	1.00

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
41C: McCamy, very stony-----	85	Moderate Restrictive layer	0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
42F: McClung, very stony-----	40	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Caneyville, very stony-----	30	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Dekalb, very stony-----	25	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
43C: Needmore-----	60	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
Opequon-----	30	Severe Restrictive layer Stickiness/slope Low strength	1.00 0.50 0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50 0.50	Severe Low strength	1.00

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
43E: Needmore-----	55	Moderate Slope	0.50	Poorly suited Slope	1.00	Severe Low strength	1.00
Opequon-----	35	Severe Restrictive layer Slope	1.00	Poorly suited Slope	1.00	Severe Low strength	1.00
		Stickiness/slope	0.50	Low strength	0.50		
				Stickiness; high plasticity index	0.50		
43F: Needmore-----	50	Severe Slope	1.00	Poorly suited Slope	1.00	Severe Low strength	1.00
		Low strength	0.50	Low strength	0.50		
Opequon-----	40	Severe Slope	1.00	Poorly suited Slope	1.00	Severe Low strength	1.00
		Low strength	0.50	Low strength	0.50		
				Stickiness; high plasticity index	0.50		
44E: Needmore-----	70	Moderate Slope	0.50	Poorly suited Slope	1.00	Severe Low strength	1.00
				Low strength	0.50		
Urban land-----	25	Not rated		Not rated		Not rated	
45B: Nicelytown-----	80	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
46B: Nicelytown-----	50	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
Urban land-----	45	Not rated		Not rated		Not rated	
47C: Oriskany, extremely stony-----	65	Severe Stoniness	1.00	Moderately suited Rock fragments Slope	0.50 0.50	Slight Strength	0.10
Laidig, extremely stony-----	25	Moderate Stoniness	0.50	Moderately suited Slope Rock fragments Low strength	0.50 0.50 0.50	Severe Low strength	1.00
47E: Oriskany, extremely stony-----	60	Moderate Slope Stoniness	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Laidig, extremely stony-----	30	Moderate Slope Stoniness	0.50 0.50	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50	Severe Low strength	1.00

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings	Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features
48F: Oriskany, extremely stony-----	80	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength 0.10
49C: Oriskany, extremely stony-----	55	Severe Stoniness	1.00	Moderately suited Slope Rock fragments	0.50	Slight Strength 0.10
Murrill, extremely stony-----	35	Moderate Stoniness Low strength	0.50 0.50	Moderately suited Slope Rock fragments Low strength	0.50 0.50 0.50	Moderate Low strength 0.50
49E: Oriskany, extremely stony-----	55	Moderate Slope Stoniness	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength 0.10
Murrill, extremely stony-----	35	Moderate Slope Stoniness	0.50 0.50	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50	Moderate Low strength 0.50

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
49F: Oriskany, extremely stony-----	65	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Murrill, extremely stony-----	25	Severe Slope Stoniness Low strength	1.00 0.50 0.50	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50	Moderate Low strength	0.50
50E: Peaks, very rocky---	55	Severe Restrictive layer Slope Sandiness	1.00 0.50 0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50
Edneytown, very rocky-----	40	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
50F: Peaks, very rocky---	55	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Edneytown, very rocky-----	40	Severe Slope	1.00	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
51A: Philo-----	75	Severe Flooding	1.00	Poorly suited Flooding	1.00	Moderate Low strength	0.50
52C: Pignut, very stony-----	50	Moderate Restrictive layer Low strength	0.50 0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
Myersville, very stony-----	40	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50	Severe Low strength	1.00
53E: Pignut, very stony-----	90	Moderate Slope Restrictive layer	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
53F: Pignut, very stony-----	90	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
54: Pits-----	50	Not rated		Not rated		Not rated	
Dumps-----	45	Not rated		Not rated		Not rated	



Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
55A: Pope-----	90	Severe Flooding	1.00	Poorly suited Flooding	1.00	Moderate Low strength	0.50
56G: Rock outcrop-----	60	Not rated		Not rated		Not rated	
Opequon-----	25	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength; high stickiness; high plasticity index	1.00 0.50 0.50	Severe Low strength	1.00
57A: Sensabaugh-----	40	Severe Flooding Low strength		Poorly suited Flooding Low strength		Severe Low strength	1.00
Lobdell-----	30	Severe Flooding Low strength	1.00 0.50	Poorly suited Flooding Low strength	1.00 0.50	Severe Low strength	1.00
Derroc-----	20	Severe Flooding	1.00	Poorly suited Flooding	1.00	Slight Strength	0.10
58B: Shottower-----	90	Slight		Well suited		Moderate Low strength	0.50
58C: Shottower-----	90	Slight		Moderately suited Slope	0.50	Moderate Low strength	0.50

Table 9.—Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
58D: Shottower-----	85	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50
59E: Shottower-----	85	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50
60C: Shottower-----	50	Slight		Well suited		Moderate Low strength	0.50
Urban land-----	45	Not rated		Not rated		Not rated	
61B: Slabtown-----	80	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
61C: Slabtown-----	80	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50	Severe Low strength	1.00
62: Slickens-----	100	Not rated		Not rated		Not rated	
63E: Stumptown, extremely stony----	40	Moderate Slope Restrictive layer Stoniness	0.50 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10

Table 9.—Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
63E: Marbleyard, extremely stony----	35	Moderate Slope Restrictive layer Stoniness	0.50 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Rock outcrop-----	15	Not rated		Not rated		Not rated	
63F: Stumptown, extremely stony----	40	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Marbleyard, extremely stony----	35	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Rock outcrop-----	15	Not rated		Not rated		Not rated	
63G: Stumptown, extremely stony----	40	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Marbleyard, extremely stony----	35	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings	Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features
63G: Rock outcrop-----	15	Not rated		Not rated		Not rated
64E: Stumptown, very stony-----	50	Moderate Slope Restrictive layer	0.50 0.50	Poorly suited Slope	1.00	Slight Strength 0.10
Sylco, very stony---	45	Severe Restrictive layer Slope Sandiness	1.00 0.50 0.50	Poorly suited Slope	1.00	Moderate Low strength 0.50
64F: Stumptown, very stony-----	50	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength 0.10
Sylco, very stony---	35	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength 0.50
65E: Sylco, very rocky---	45	Severe Restrictive layer Slope Sandiness	1.00 0.50 0.50	Poorly suited Slope	1.00	Moderate Low strength 0.50

Table 9.—Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65E: Marbleyard, very rocky-----	40	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
		Restrictive layer	0.50	Rock fragments	0.50		
		Stoniness	0.50				
65F: Sylco, very rocky---	50	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Marbleyard, very rocky-----	45	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
		Stoniness	0.50	Rock fragments	0.50		
65G: Sylco, very rocky---	50	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Marbleyard, very rocky-----	35	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
		Stoniness	0.50	Rock fragments	0.50		
66C: Thunder, very bouldery-----	50	Severe Stoniness	1.00	Moderately suited Slope	0.50	Slight Strength	0.10
				Rock fragments	0.50		

Table 9.—Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings	Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features
66C: Saunook, very bouldery-----	30	Slight				
				Moderately suited Slope	0.50	Slight Strength
				Rock fragments	0.50	
66E: Thunder, very bouldery-----	50	Moderate Slope				
			0.50	Poorly suited Slope	1.00	Slight Strength
				Rock fragments	0.50	
Saunook, very bouldery-----	30	Moderate Slope				
			0.50	Poorly suited Slope	1.00	Slight Strength
				Rock fragments	0.50	
66F: Thunder, very bouldery-----	50	Severe Slope				
			1.00	Poorly suited Slope	1.00	Slight Strength
				Rock fragments	0.50	
Saunook, very bouldery-----	30	Severe Slope				
			1.00	Poorly suited Slope	1.00	Slight Strength
		Low strength	0.50	Rock fragments	0.50	
67C: Tumbling-----	50	Slight				
				Moderately suited Slope	0.50	Moderate Low strength

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
67C: Vanella-----	40	Slight		Moderately suited Slope	0.50	Moderate Low strength	0.50
67D: Tumbling-----	50	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50
Vanella-----	40	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50
67E: Tumbling-----	50	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50
Vanella-----	40	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50
68D: Tumbling-----	35	Slight		Moderately suited Slope	0.50	Moderate Low strength	0.50
Vanella-----	30	Slight		Moderately suited Slope	0.50	Moderate Low strength	0.50
Urban land-----	25	Not rated		Not rated		Not rated	
69A: Tygart-----	55	Severe Wetness Low strength	1.00 0.50	Poorly suited Ponding Wetness Low strength	1.00 0.50 0.50	Severe Low strength	1.00



Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
69A: Purdy-----	40	Severe Wetness Low strength	1.00 0.50	Poorly suited Ponding Wetness Low strength	1.00 1.00 0.50	Severe Low strength Wetness	1.00 0.50
70: Udorthents, refuse substratum-----	85	Not rated		Not rated		Not rated	
71: Udorthents	50	Not rated		Not rated		Not rated	
Urban land-----	45	Not rated		Not rated		Not rated	
72C: Unaka, very stony---	60	Moderate Restrictive layer	0.50	Moderately suited Slope	0.50	Slight Strength	0.10
Plott, very stony---	30	Slight		Moderately suited Slope	0.50	Moderate Low strength	0.50
72E: Unaka, very stony---	65	Severe Restrictive layer Slope	1.00 0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Plott, very stony---	30	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50

Table 9.—Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73C: Vanella, very stony-----	50	Slight					
				Moderately suited Slope	0.50	Moderate Low strength	0.50
Tumbling, very stony-----	40	Slight					
				Moderately suited Slope	0.50	Moderate Low strength	0.50
73E: Vanella, very stony-----	50	Moderate Slope		Poorly suited Slope	1.00	Moderate Low strength	0.50
Tumbling, very stony-----	40	Moderate Slope		Poorly suited Slope	1.00	Moderate Low strength	0.50
74C: Watahala, very stony-----	60	Slight					
				Moderately suited Slope	0.50	Slight Strength	0.10
Frederick, very stony-----	30	Slight					
				Moderately suited Slope	0.50	Slight Strength	0.10
74E: Watahala, very stony-----	50	Moderate Slope		Poorly suited Slope	1.00	Slight Strength	0.10

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74E: Frederick, very stony-----	35	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
74F: Watahala, very stony-----	60	Severe Slope Low strength	1.00 0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Frederick, very stony-----	20	Severe Slope Low strength	1.00 0.50	Poorly suited Slope	1.00	Slight Strength	0.10
75E: Weikert-----	45	Severe Restrictive layer Slope	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Berks-----	30	Moderate Slope Restrictive layer	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Rough-----	20	Severe Restrictive layer Slope	1.00 0.50	Poorly suited Slope	1.00	Slight Strength	0.10

Table 9.-Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75F: Weikert-----	45	Severe Slope	1.00	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Berks-----	30	Severe Slope	1.00	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Rough-----	15	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
76G: Weikert-----	35	Severe Slope	1.00	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Rough-----	30	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
Rock outcrop-----	25	Not rated		Not rated		Not rated	
77C: Wintergreen-----	90	Moderate Low strength	0.50	Moderately suited Slope Low strength	0.50 0.50	Severe Low strength	1.00
77D: Wintergreen-----	90	Moderate Slope Stickiness/slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00

Table 9.—Forestland Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
77E: Wintergreen-----	90	Moderate Slope	0.50	Poorly suited Slope	1.00	Severe	1.00
		Stickiness/slope	0.50	Low strength	0.50	Low strength	
78E: Wintergreen, very stony-----	85	Moderate Slope	0.50	Poorly suited Slope	1.00	Severe	1.00
		Stickiness/slope	0.50	Low strength	0.50	Low strength	
79A: Wolfgap-----	90	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe	1.00
80A: Wolfgap-----	35	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe	1.00
Derroc-----	30	Slight		Well suited		Slight Strength	0.10
Urban land-----	25	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Table 9.-Forestland Management, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1A: Alonzville, rarely flooded-----	80	Slight					
				Slight		Moderately suited Low strength	0.50
2B: Alonzville-----	80	Slight					
				Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
3B: Alonzville-----	50	Slight					
				Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
Urban land-----	45	Not rated				Not rated	
4C: Berks-----	50	Slight					
				Severe Slope/erodibility	0.95	Moderately suited Slope Low strength	0.50 0.50
Weikert-----	40	Slight					
				Severe Slope/erodibility	0.95	Moderately suited Slope Low strength	0.50 0.50
5A: Botetourt-----	90	Slight					
				Slight		Moderately suited Low strength	0.50

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
6A: Botetourt-----	50	Slight		Slight		Moderately suited Low strength	0.50
Urban land-----	45	Not rated		Not rated		Not rated	
7A: Buckton-----	55	Slight		Slight		Poorly suited Flooding Low strength	1.00 0.50
Weaver-----	30	Slight		Slight		Poorly suited Flooding Low strength	1.00 0.50
8F: Caneyville-----	60	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Frederick-----	20	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
9C: Carbo, very rocky---	55	Slight		Severe Slope/erodibility	0.95	Moderately suited Slope Low strength Stickiness; high plasticity index	0.50 0.50 0.50



Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9C: Opequon, very rocky-----	30	Slight					
				Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Low strength	0.50
						Stickiness; high plasticity index	0.50
9E: Carbo, very rocky---	50	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Stickiness; high plasticity index	0.50
Opequon, very rocky-----	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Stickiness; high plasticity index	0.50
10F: Carbo-----	55	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Stickiness; high plasticity index	0.50

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
10F: Opequon-----	25	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
						Low strength	0.50
						Stickiness; high plasticity index	0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
11B: Cottonbend-----	85	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
11C: Cottonbend-----	85	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
						Low strength	0.50
12A: Coursey, rarely flooded-----	80	Slight		Slight		Moderately suited	
						Low strength	0.50
13B: Coursey-----	80	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
14C: Dekalb, very stony-----	50	Slight		Slight		Moderately suited Slope	0.50

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14C: Lehew, very stony----	20	Slight					
Berks, very stony----	15	Slight		Slight		Moderately suited Slope	0.50
14E: Dekalb, very stony-----	50	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Moderately suited Slope Low strength	0.50 0.50
Lehew, very stony----	20	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope	1.00
Berks, very stony----	15	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope	1.00
14F: Dekalb, very stony-----	50	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Lehew, very stony----	20	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Berks, very stony----	15	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15E: Dekalb, extremely stony-----	50	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Lehew, extremely stony-----	30	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
15F: Dekalb, extremely stony-----	50	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Lehew, extremely stony-----	20	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
16C: Dekalb, very stony-----	60	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Lily, very stony----	30	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16E: Dekalb, very stony-----	50	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope	1.00
Lily, very stony----	40	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
17F: Dekalb, very stony-----	75	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Lily, very stony----	20	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
18A: Derroc-----	85	Slight		Slight		Poorly suited Flooding	1.00
19C: Edneytown-----	90	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Moderately suited Slope Low strength	0.50 0.50
19D: Edneytown-----	90	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20C: Edneytown, very stony-----	60	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Moderately suited Slope Low strength	0.50 0.50
Peaks, very stony---	35	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
20E: Edneytown, very stony-----	60	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Peaks, very stony---	35	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
20F: Edneytown, very stony-----	60	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Peaks, very stony---	35	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
21B: Escatawba-----	80	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
21C: Escatawba-----	80	Slight					
				Moderate Slope/erodibility	0.50	Moderately suited Slope Low strength	0.50 0.50
22B: Frederick-----	85	Slight					
				Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
22C: Frederick-----	80	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Moderately suited Slope Low strength	0.50 0.50
22D: Frederick-----	80	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
23E: Frederick-----	65	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Caneyville-----	30	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
24C: Frederick, very rocky-----	45	Slight					
				Severe Slope/erodibility	0.95	Moderately suited Slope Low strength	0.50 0.50



Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
24C: Caneyville, very rocky-----	35	Slight					
				Severe Slope/erodibility	0.95	Moderately suited Slope Low strength	0.50 0.50
24E: Frederick, very rocky-----	40	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Caneyville, very rocky-----	38	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
25C: Frederick-----	60	Slight		Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Watahala-----	30	Slight		Severe Slope/erodibility	0.95	Moderately suited Slope Low strength	0.50 0.50
				Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
25D: Frederick-----	45	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Watahala-----	35	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25E: Frederick-----	50	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Watahala-----	40	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
26A: Gladehill-----	85	Slight		Slight		Poorly suited Flooding	1.00
27B: Groseclose-----	80	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
27C: Groseclose-----	80	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Moderately suited Slope Low strength	0.50 0.50
27D: Groseclose-----	80	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
28E: Groseclose-----	50	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
28E: Needmore-----	40	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
29C: Groseclose-----	35	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope Low strength	0.50 0.50
Needmore-----	30	Slight		Severe Slope/erodibility	0.95	Moderately suited Slope Low strength	0.50 0.50
Urban land-----	25	Not rated		Not rated		Not rated	
30A: Holly-----	50	Slight		Slight		Poorly suited Ponding Flooding Wetness Low strength	1.00 1.00 1.00 0.50
Orrville-----	45	Slight		Slight		Poorly suited Ponding Flooding Low strength	1.00 1.00 0.50
31A: Ingledove-----	85	Slight		Slight		Moderately suited Low strength	0.50

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
32A: Irongate-----	85	Slight		Slight		Poorly suited Flooding	1.00
33C: Litz-----	35	Slight		Severe Slope/erodibility	0.95	Moderately suited Slope Low strength	0.50 0.50
Chiswell-----	30	Slight		Severe Slope/erodibility	0.95	Moderately suited Slope Low strength	0.50 0.50
Groseclose-----	20	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Moderately suited Slope Low strength	0.50 0.50
33E: Litz-----	35	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Chiswell-----	25	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Groseclose-----	25	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33F: Litz-----	35	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Chiswell-----	30	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Groseclose-----	20	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
34C: Litz, very stony----	55	Slight		Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Needmore, very stony-----	35	Slight		Severe Slope/erodibility	0.95	Moderately suited Slope Low strength	0.50 0.50
34E: Litz, very stony----	55	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Needmore, very stony-----	35	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34F: Litz, very stony-----	55	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Needmore, very stony-----	35	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
35C: Lodi-----	40	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
McClung-----	35	Slight		Severe Slope/erodibility	0.95	Moderately suited Slope	0.50
Lily-----	20	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
35E: Lodi-----	35	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
McClung-----	30	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Lily-----	25	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
36C: Lostcove, extremely stony-----	80	Slight					
				Moderate Slope/erodibility	0.50	Moderately suited Slope Rock fragments	0.50 0.50
37E: Lostcove, very stony-----	80	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope	1.00
37F: Lostcove, very stony-----	80	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
38E: Marbleyard, extremely stony----	70	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
39F: Marbleyard, extremely stony----	45	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50



Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
39F: Sherando, extremely stony-----	30	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Rock outcrop-----	20	Not rated		Not rated		Not rated	
39G: Marbleyard, extremely stony----	45	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Sherando, extremely stony-----	30	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Rock outcrop-----	20	Not rated		Not rated		Not rated	
40A: Maurertown-----	50	Slight		Slight		Poorly suited Ponding Wetness Low strength	1.00 1.00 0.50
Toms-----	45	Slight		Slight		Poorly suited Ponding Wetness Low strength	1.00 0.50 0.50

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
41C: McCamy, very stony-----	85	Slight					
				Moderate Slope/erodibility	0.50	Moderately suited Slope Low strength	0.50 0.50
42F: McClung, very stony-----	40	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Caneyville, very stony-----	30	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Dekalb, very stony-----	25	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
43C: Needmore-----	60	Slight		Severe Slope/erodibility	0.95	Moderately suited Slope Low strength	0.50 0.50
Opequon-----	30	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope Low strength Stickiness; high plasticity index	0.50 0.50 0.50

Table 9.-Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
43E: Needmore-----	55	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Opequon-----	35	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength Stickiness; high plasticity index	1.00 0.50 0.50
43F: Needmore-----	50	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Opequon-----	40	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength Stickiness; high plasticity index	1.00 0.50 0.50
44E: Needmore-----	70	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Urban land-----	25	Not rated		Not rated		Not rated	
45B: Nicelytown-----	80	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
46B: Nicelytown-----	50	Slight					
				Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
Urban land-----	45	Not rated		Not rated		Not rated	
47C: Oriskany, extremely stony-----	65	Slight					
				Moderate Slope/erodibility	0.50	Moderately suited Rock fragments Slope	0.50 0.50
Laidig, extremely stony-----	25	Slight					
				Severe Slope/erodibility	0.95	Moderately suited Slope Rock fragments Low strength	0.50 0.50 0.50
47E: Oriskany, extremely stony-----	60	Moderate Slope/erodibility	0.50				
				Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Laidig, extremely stony-----	30	Moderate Slope/erodibility	0.50				
				Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
48F: Oriskany, extremely stony-----	80	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
49C: Oriskany, extremely stony-----	55	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope Rock fragments	0.50 0.50
Murrill, extremely stony-----	35	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope Rock fragments	0.50 0.50
49E: Oriskany, extremely stony-----	55	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Murrill, extremely stony-----	35	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
49F: Oriskany, extremely stony-----	65	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Murrill, extremely stony-----	25	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50
50E: Peaks, very rocky---	55	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Edneytown, very rocky-----	40	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
50F: Peaks, very rocky---	55	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Edneytown, very rocky-----	40	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
51A: Philo-----	75	Slight		Slight		Poorly suited Flooding	1.00

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
52C: Pignut, very stony-----	50	Slight					
				Severe Slope/erodibility	0.95	Moderately suited Slope Low strength	0.50 0.50
Myersville, very stony-----	40	Slight					
				Severe Slope/erodibility	0.95	Moderately suited Slope Low strength	0.50 0.50
53E: Pignut, very stony-----	90	Moderate Slope/erodibility	0.50				
				Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
53F: Pignut, very stony-----	90	Very severe Slope/erodibility	0.95				
				Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
54: Pits-----	50	Not rated					
				Not rated		Not rated	
Dumps-----	45	Not rated					
				Not rated		Not rated	
55A: Pope-----	90	Slight					
				Slight		Poorly suited Flooding	1.00



Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
56G: Rock outcrop-----	60	Not rated		Not rated		Not rated	
Opequon-----	25	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
						Low strength	0.50
						Stickiness; high plasticity index	0.50
57A: Sensabaugh-----	40	Slight		Slight		Poorly suited Flooding	1.00
						Low strength	0.50
Lobdell-----	30	Slight		Slight		Poorly suited Flooding	1.00
						Low strength	0.50
Derroc-----	20	Slight		Slight		Poorly suited Flooding	1.00
58B: Shottower-----	90	Slight		Moderate Slope/erodibility	0.50	Well suited	
58C: Shottower-----	90	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
58D: Shottower-----	85	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
59E: Shottower-----	85	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope	1.00
60C: Shottower-----	50	Slight		Moderate Slope/erodibility	0.50	Well suited	
Urban land-----	45	Not rated		Not rated		Not rated	
61B: Slabtown-----	80	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
61C: Slabtown-----	80	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Moderately suited Slope Low strength	0.50 0.50
62: Slickens-----	100	Not rated		Not rated		Not rated	
63E: Stumptown, extremely stony----	40	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Marbleyard, extremely stony----	35	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
63E: Rock outcrop-----	15	Not rated		Not rated		Not rated	
63F: Stumptown, extremely stony----	40	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Marbleyard, extremely stony----	35	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
63G: Stumptown, extremely stony----	40	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Marbleyard, extremely stony----	35	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
64E: Stumptown, very stony-----	50	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope	1.00

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
64E: Sylco, very stony---	45	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
64F: Stumptown, very stony-----	50	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Sylco, very stony---	35	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
65E: Sylco, very rocky---	45	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Marbleyard, very rocky-----	40	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
65F: Sylco, very rocky---	50	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Marbleyard, very rocky-----	45	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
65G: Sylco, very rocky---	50	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65G: Marbleyard, very rocky-----	35	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
66C: Thunder, very bouldery-----	50	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope Rock fragments	0.50 0.50
Saunook, very bouldery-----	30	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope Rock fragments	0.50 0.50
66E: Thunder, very bouldery-----	50	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Saunook, very bouldery-----	30	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
66F: Thunder, very bouldery-----	50	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
66F: Saunook, very bouldery-----	30	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
67C: Tumblng-----	50	Slight		Severe Slope/erodibility	0.95	Moderately suited Slope	0.50
Vanella-----	40	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
67D: Tumblng-----	50	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Vanella-----	40	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope	1.00
67E: Tumblng-----	50	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Vanella-----	40	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
68D: Tumblng-----	35	Slight		Severe Slope/erodibility	0.95	Moderately suited Slope	0.50
Vanella-----	30	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
68D: Urban land-----	25	Not rated		Not rated		Not rated	
69A: Tygart-----	55	Slight		Slight		Poorly suited Ponding Wetness Low strength	1.00 0.50 0.50
Purdy-----	40	Slight		Slight		Poorly suited Ponding Wetness Low strength	1.00 1.00 0.50
70: Udorthents, refuse Substratum-----	85	Not rated		Not rated		Not rated	
71: Udorthents-----	50	Not rated		Not rated		Not rated	
Urban land-----	45	Not rated		Not rated		Not rated	
72C: Unaka, very stony---	60	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Plott, very stony---	30	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
72E: Unaka, very stony---	65	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00



Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
72E: Plott, very stony----	30	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
73C: Vanella, very stony-----	50	Slight		Slight		Moderately suited Slope	0.50
Tumbling, very stony-----	40	Slight		Slight		Moderately suited Slope	0.50
73E: Vanella, very stony-----	50	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope	1.00
Tumbling, very stony-----	40	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope	1.00
74C: Watahala, very stony-----	60	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Frederick, very stony-----	30	Slight		Severe Slope/erodibility	0.95	Moderately suited Slope	0.50

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74E: Watahala, very stony-----	50	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
74E: Frederick, very stony-----	35	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Watahala, very stony-----	60	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Frederick, very stony-----	20	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
75E: Weikert-----	45	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Berks-----	30	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Rough-----	20	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75F: Weikert-----	45	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Berks-----	30	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Rough-----	15	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
76G: Weikert-----	35	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Rough-----	30	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Rock outcrop-----	25	Not rated		Not rated		Not rated	
77C: Wintergreen-----	90	Slight		Severe Slope/erodibility	0.95	Moderately suited Slope Low strength	0.50 0.50
77D: Wintergreen-----	90	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50

Table 9.--Forestland Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
77E: Wintergreen-----	90	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
78E: Wintergreen, very stony-----	85	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
79A: Wolfgap-----	90	Slight		Slight		Moderately suited Low strength	0.50
80A: Wolfgap-----	35	Slight		Slight		Moderately suited Low strength	0.50
Derroc-----	30	Slight		Slight		Well suited	
Urban land-----	25	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Table 9.-Forestland Management, Part III

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1A: Alonzville, rarely flooded-----	80	Well suited					
2B: Alonzville	80	Well suited		Well suited		Moderately suited Low strength	0.50
3B: Alonzville-----	50	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
Urban land-----	45	Not rated		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
4C: Berks-----	50	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Low strength	0.50
Weikert-----	40	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Low strength	0.50
5A: Botetourt-----	90	Well suited		Well suited		Moderately suited Low strength	0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
6A: Botetourt-----	50	Well suited		Well suited		Moderately suited Low strength	0.50
Urban land-----	45	Not rated		Not rated		Not rated	
7A: Buckton-----	55	Well suited		Well suited		Moderately suited Low strength	0.50
Weaver-----	30	Well suited		Well suited		Moderately suited Low strength	0.50
8F: Caneyville-----	60	Poorly suited Stickiness; high plasticity index Slope	0.75	Unsuited Slope Stickiness; high plasticity index	1.00 0.75	Poorly suited Slope Low strength	1.00 0.50
Frederick-----	20	Moderately suited Slope	0.50	Unsuited Slope	1.00	Poorly suited Slope Low strength	1.00 0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
9C: Carbo, very rocky---	55	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index Slope	0.75 0.50	Moderately suited Low strength Stickiness; high plasticity index	0.50 0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9C: Opequon, very rocky-----	30	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index Slope	0.75	Moderately suited Low strength Stickiness; high plasticity index	0.50 0.50
9E: Carbo, very rocky---	50	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Slope Stickiness; high plasticity index	0.75	Moderately suited Low strength Slope Stickiness; high plasticity index	0.50 0.50 0.50
Opequon, very rocky-----	35	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Slope Stickiness; high plasticity index	0.75	Moderately suited Low strength Slope Stickiness; high plasticity index	0.50 0.50 0.50
10F: Carbo-----	55	Poorly suited Stickiness; high plasticity index Slope	0.75	Unsuited Slope Stickiness; high plasticity index	1.00 0.75	Poorly suited Slope Low strength Stickiness; high plasticity index	1.00 0.50 0.50
Opequon-----	25	Poorly suited Stickiness; high plasticity index Slope	0.75	Unsuited Slope Stickiness; high plasticity index	1.00 0.75	Poorly suited Slope Low strength Stickiness; high plasticity index	1.00 0.50 0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
10F: Rock outcrop-----	15	Not rated		Not rated		Not rated	
11B: Cottonbend-----	85	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Moderately suited Low strength	0.50
11C: Cottonbend-----	85	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Moderately suited Low strength	0.50
12A: Coursey, rarely flooded-----	80	Well suited		Well suited		Moderately suited Low strength	0.50
13B: Coursey-----	80	Well suited		Well suited		Moderately suited Low strength	0.50
14C: Dekalb, very stony-----	50	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Well suited	
Lehew, very stony---	20	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Well suited	



Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14C: Berks, very stony----	15	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Low strength	0.50
14E: Dekalb, very stony-----	50	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Slope	0.50
Lehew, very stony----	20	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Slope	0.50
Berks, very stony----	15	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Low strength Slope	0.50 0.50
14F: Dekalb, very stony-----	50	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope	1.00
Lehew, very stony----	20	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope	1.00
Berks, very stony----	15	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Low strength	1.00 0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15E: Dekalb, extremely stony-----	50	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Rock fragments Slope	0.50 0.50
Lehew, extremely stony-----	30	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Rock fragments Slope	0.50 0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
15F: Dekalb, extremely stony-----	50	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50
Lehew, extremely stony-----	20	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
16C: Dekalb, very stony-----	60	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Well suited	

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16C: Lily, very stony----	30	Well suited					
				Moderately suited Rock fragments	0.50	Well suited	
				Slope	0.50		
16E: Dekalb, very stony-----	50	Moderately suited Rock fragments	0.50				
				Poorly suited Slope	0.75	Moderately suited Slope	0.50
				Rock fragments	0.75		
Lily, very stony----	40	Well suited					
				Poorly suited Slope	0.75	Moderately suited Slope	0.50
				Rock fragments	0.50		
17F: Dekalb, very stony-----	75	Moderately suited Slope Rock fragments	0.50 0.50				
				Unsuited Slope	1.00	Poorly suited Slope	1.00
				Rock fragments	0.75		
Lily, very stony----	20	Moderately suited Slope	0.50				
				Unsuited Slope	1.00	Poorly suited Slope	1.00
				Rock fragments	0.50		
18A: Derroc-----	85	Moderately suited Rock fragments	0.50				
				Unsuited Rock fragments	1.00	Well suited	
19C: Edneytown-----	90	Well suited					
				Moderately suited Slope	0.50	Moderately suited Low strength	0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
19D: Edneytown-----	90	Well suited					
				Poorly suited Slope	0.75	Moderately suited Low strength Slope	0.50 0.50
20C: Edneytown, very stony-----	60	Well suited					
				Moderately suited Rock fragments Slope	0.50 0.50	Moderately suited Low strength	0.50
Peaks, very stony---	35	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Well suited	
20E: Edneytown, very stony-----	60	Well suited					
				Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Low strength Slope	0.50 0.50
Peaks, very stony---	35	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Slope	0.50
20F: Edneytown, very stony-----	60	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20F: Peaks, very stony---	35	Moderately suited Slope	0.50	Unsuited Slope	1.00	Poorly suited Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
21B: Escatawba-----	80	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
21C: Escatawba-----	80	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
22B: Frederick-----	85	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
22C: Frederick-----	80	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
22D: Frederick-----	80	Well suited		Poorly suited Slope	0.75	Moderately suited Low strength	0.50
23E: Frederick-----	65	Well suited		Unsuited Slope	1.00	Moderately suited Slope	0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23E: Caneyville-----	30	Poorly suited Stickiness; high plasticity index	0.75	Unsuited Slope	1.00	Moderately suited Slope	0.50
24C: Frederick, very rocky-----	45	Well suited		Stickiness; high plasticity index	0.75	Low strength	0.50
Caneyville, very rocky-----	35	Poorly suited Stickiness; high plasticity index	0.75	Moderately suited Slope	0.50	Moderately suited Low strength	0.50
24E: Frederick, very rocky-----	40	Well suited		Poorly suited Stickiness; high plasticity index	0.75	Moderately suited Low strength	0.50
Caneyville, very rocky-----	38	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Slope	0.75	Moderately suited Low strength Slope	0.50 0.50
25C: Frederick-----	60	Well suited		Poorly suited Slope Stickiness; high plasticity index	0.75 0.75	Moderately suited Low strength Slope	0.50 0.50
				Moderately suited Slope Rock fragments	0.50 0.50	Moderately suited Low strength	0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25C: Watahala-----	30	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Well suited	
25D: Frederick-----	45	Well suited		Poorly suited Slope Rock fragments		Moderately suited Low strength Slope	0.50 0.50
Watahala-----	35	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
25E: Frederick-----	50	Well suited		Unsuited Slope Rock fragments		Moderately suited Slope Low strength	0.50 0.50
Watahala-----	40	Moderately suited Rock fragments	0.50	Unsuited Slope Rock fragments	1.00 0.50	Moderately suited Slope Low strength	0.50 0.50
26A: Gladehill-----	85	Well suited		Well suited		Well suited	
27B: Groseclose-----	80	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
27C: Groseclose-----	80	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
27D: Groseclose-----	80	Well suited		Poorly suited Slope	0.75	Moderately suited Low strength Slope	0.50 0.50
28E: Groseclose-----	50	Well suited		Unsuited Slope	1.00	Moderately suited Slope Low strength	0.50 0.50
Needmore-----	40	Moderately suited Stickiness; high plasticity index	0.50	Unsuited Slope Stickiness; high plasticity index	1.00 0.50	Moderately suited Slope Low strength	0.50 0.50
29C: Groseclose-----	35	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
Needmore-----	30	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index Slope	0.50 0.50	Moderately suited Low strength	0.50
Urban land-----	25	Not rated		Not rated		Not rated	
30A: Holly-----	50	Poorly suited Wetness	0.75	Poorly suited Wetness	0.75	Poorly suited Wetness Low strength	1.00 0.50



Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
30A: Orrville-----	45	Poorly suited Wetness	0.75	Poorly suited Wetness	0.75	Poorly suited Wetness Low strength	0.75 0.50
31A: Ingledove-----	85	Well suited		Moderately suited Rock fragments	0.50	Moderately suited Low strength	0.50
32A: Irongate-----	85	Well suited		Well suited		Well suited	
33C: Litz-----	35	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Low strength	0.50
Chiswell-----	30	Moderately suited Rock fragments	0.50	Unsuited Rock fragments Slope	1.00 0.50	Moderately suited Low strength	0.50
Groseclose-----	20	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
33E: Litz-----	35	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Low strength Slope	0.50 0.50
Chiswell-----	25	Moderately suited Rock fragments	0.50	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Low strength Slope	0.50 0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33E: Groseclose-----	25	Well suited					
				Poorly suited Slope	0.75	Moderately suited Low strength Slope	0.50 0.50
33F: Litz-----	35	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Low strength	1.00 0.50
Chiswell-----	30	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Low strength	1.00 0.50
Groseclose-----	20	Moderately suited Slope	0.50	Unsuited Slope	1.00	Poorly suited Slope Low strength	1.00 0.50
34C: Litz, very stony----	55	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Low strength	0.50
Needmore, very stony-----	35	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index Rock fragments Slope	0.50 0.50	Moderately suited Low strength	0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34E: Litz, very stony----	55	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75	Moderately suited Low strength Slope	0.50 0.50
Needmore, very stony-----	35	Moderately suited Stickiness; high plasticity index	0.50	Poorly suited Slope Stickiness; high plasticity index Rock fragments	0.75	Moderately suited Low strength Slope	0.50 0.50
34F: Litz, very stony----	55	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Low strength	1.00 0.50
Needmore, very stony-----	35	Moderately suited Stickiness; high plasticity index Slope	0.50 0.50	Unsuited Slope Stickiness; high plasticity index Rock fragments	1.00 0.50 0.50	Poorly suited Slope Low strength	1.00 0.50
35C: Lodi-----	40	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
McClung-----	35	Well suited		Moderately suited Slope	0.50	Well suited	

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
35C: Lily-----	20	Well suited		Moderately suited Slope	0.50	Well suited	
35E: Lodi-----	35	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
McClung-----	30	Well suited		Poorly suited Slope	0.75	Moderately suited Slope	0.50
Lily-----	25	Well suited		Poorly suited Slope	0.75	Moderately suited Slope	0.50
36C: Lostcove, extremely stony-----	80	Moderately suited Rock fragments	0.50	Unsuited Rock fragments Slope	1.00 0.50	Moderately suited Rock fragments	0.50
37E: Lostcove, very stony-----	80	Moderately suited Rock fragments	0.50	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Slope	0.50
37F: Lostcove, very stony-----	80	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope	1.00

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
38E: Marbleyard, extremely stony----	70	Moderately suited Rock fragments	0.50	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments Slope	0.50 0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
39F: Marbleyard, extremely stony----	45	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 0.50
Sherando, extremely stony-----	30	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50
Rock outcrop-----	20	Not rated		Not rated		Not rated	
39G: Marbleyard, extremely stony----	45	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 0.50
Sherando, extremely stony-----	30	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50
Rock outcrop-----	20	Not rated		Not rated		Not rated	

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
40A: Maurertown-----	50	Poorly suited Wetness	0.75	Poorly suited Wetness	0.75	Poorly suited Wetness	1.00
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Toms-----	45	Poorly suited Wetness	0.75	Poorly suited Wetness	0.75	Poorly suited Wetness	1.00
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
41C: McCamy, very stony-----	85	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Moderately suited Low strength	0.50
42F: McClung, very stony-----	40	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
Caneyville, very stony-----	30	Poorly suited Stickiness; high plasticity index Slope	0.75	Unsuited Slope Stickiness; high plasticity index Rock fragments	1.00 0.75 0.50	Poorly suited Slope Low strength	1.00 0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
42F: Dekalb, very stony-----	25	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope	1.00
43C: Needmore-----	60	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index Slope	0.50 0.50	Moderately suited Low strength	0.50
Opequon-----	30	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index Slope	0.75 0.50	Moderately suited Low strength Stickiness; high plasticity index	0.50 0.50
43E: Needmore-----	55	Moderately suited Stickiness; high plasticity index	0.50	Poorly suited Slope Stickiness; high plasticity index	0.75 0.50 0.50	Moderately suited Low strength Slope	0.50 0.50
Opequon-----	35	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Slope Stickiness; high plasticity index	0.75 0.75 0.50	Moderately suited Low strength Slope Stickiness; high plasticity index	0.50 0.50 0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
43F: Needmore-----	50	Moderately suited Stickiness; high plasticity index Slope	0.50	Unsuited Slope Stickiness; high plasticity index	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50
Opequon-----	40	Poorly suited Stickiness; high plasticity index Slope	0.75	Unsuited Slope Stickiness; high plasticity index	1.00 0.75	Poorly suited Slope Low strength Stickiness; high plasticity index	1.00 0.50 0.50
44E: Needmore-----	70	Moderately suited Stickiness; high plasticity index	0.50	Poorly suited Slope Stickiness; high plasticity index	0.75 0.50	Moderately suited Low strength Slope	0.50 0.50
Urban land-----	25	Not rated		Not rated		Not rated	
45B: Nicelytown-----	80	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
46B: Nicelytown-----	50	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
Urban land-----	45	Not rated		Not rated		Not rated	



Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47C: Oriskany, extremely stony-----	65	Moderately suited Rock fragments	0.50	Unsuited Rock fragments Slope	1.00 0.50	Moderately suited Rock fragments	0.50
Laidig, extremely stony-----	25	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Rock fragments Low strength	0.50 0.50
47E: Oriskany, extremely stony-----	60	Moderately suited Rock fragments	0.50	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments Slope	0.50 0.50
Laidig, extremely stony-----	30	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Rock fragments Low strength Slope	0.50 0.50 0.50
48F: Oriskany, extremely stony-----	80	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
49C: Oriskany, extremely stony-----	55	Moderately suited Rock fragments	0.50	Unsuited Rock fragments Slope	1.00 0.50	Moderately suited Rock fragments	0.50
Murrill, extremely stony-----	35	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Rock fragments Low strength	0.50 0.50
49E: Oriskany, extremely stony-----	55	Moderately suited Rock fragments	0.50	Unsuited Rock fragments Slope	1.00 0.75 0.50	Moderately suited Rock fragments Slope	0.50 0.50
Murrill, extremely stony-----	35	Moderately suited Rock fragments	0.50	Poorly suited Slope	0.75	Moderately suited Rock fragments	0.50
49F: Oriskany, extremely stony-----	65	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
49F: Murrill, extremely stony-----	25	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50
50E: Peaks, very rocky---	55	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Slope	0.50
Edneytown, very rocky-----	40	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Low strength Slope	0.50 0.50
50F: Peaks, very rocky---	55	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope	1.00
Edneytown, very rocky-----	40	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00 0.50
51A: Philo-----	75	Well suited		Well suited		Well suited	

Table 9.--Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
52C: Pignut, very stony-----	50	Well suited					
				Moderately suited Rock fragments Slope	0.50 0.50	Moderately suited Low strength	0.50
Myersville, very stony-----	40	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Rock fragments Slope Stickiness; high plasticity index	0.50 0.50 0.50	Moderately suited Low strength	0.50
53E: Pignut, very stony-----	90	Well suited					
				Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Low strength Slope	0.50 0.50
53F: Pignut, very stony-----	90	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50
54: Pits-----	50	Not rated		Not rated		Not rated	
Dumps-----	45	Not rated		Not rated		Not rated	
55A: Pope-----	90	Well suited		Moderately suited Rock fragments	0.50	Well suited	

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
56G: Rock outcrop-----	60	Not rated		Not rated		Not rated	
Opequon-----	25	Poorly suited Stickiness; high plasticity index Slope	0.75	Unsuited Slope Stickiness; high plasticity index	1.00 0.75	Poorly suited Slope Low strength Stickiness; high plasticity index	1.00 0.50 0.50
57A: Sensabaugh-----	40	Well suited		Moderately suited Rock fragments	0.50	Moderately suited Low strength	0.50
Lobdell-----	30	Well suited		Well suited		Moderately suited Low strength	0.50
Derroc-----	20	Moderately suited Rock fragments	0.50	Unsuited Rock fragments	1.00	Well suited	
58B: Shottower-----	90	Well suited		Moderately suited Slope	0.50	Well suited	
58C: Shottower-----	90	Well suited		Moderately suited Slope	0.50	Well suited	
58D: Shottower-----	85	Well suited		Poorly suited Slope		Moderately suited Slope	0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
59E: Shottower-----	85	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
60C: Shottower-----	50	Well suited		Moderately suited Slope	0.50	Well suited	
Urban land-----	45	Not rated		Not rated		Not rated	
61B: Slabtown-----	80	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
61C: Slabtown-----	80	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
62: Slickens-----	100	Not rated		Not rated		Not rated	
63E: Stumptown, extremely stony----	40	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Rock fragments Slope	0.50 0.50
Marbleyard, extremely stony----	35	Moderately suited Rock fragments	0.50	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments Slope	0.50 0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
63E: Rock outcrop-----	15	Not rated		Not rated		Not rated	
63F: Stumptown, extremely stony----	40	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50
Marbleyard, extremely stony----	35	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
63G: Stumptown, extremely stony----	40	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50
Marbleyard, extremely stony----	35	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
64E: Stumptown, very stony-----	50	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
Sylco, very stony---	45	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Slope	0.50
64F: Stumptown, very stony-----	50	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
Sylco, very stony---	35	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope	1.00
65E: Sylco, very rocky---	45	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Slope	0.50
Marbleyard, very rocky-----	40	Moderately suited Rock fragments	0.50	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments Slope	0.50 0.50



Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65F: Sylco, very rocky---	50	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope	1.00
Marbleyard, very rocky-----	45	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 0.50
65G: Sylco, very rocky---	50	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope	1.00
Marbleyard, very rocky-----	35	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 0.50
66C: Thunder, very bouldery-----	50	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Rock fragments	0.50
Saunook, very bouldery-----	30	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Moderately suited Rock fragments	0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
66E: Thunder, very bouldery-----	50	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.75	Moderately suited Rock fragments Slope	0.50 0.50
Saunook, very bouldery-----	30	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Rock fragments Slope	0.50 0.50
66F: Thunder, very bouldery-----	50	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50
Saunook, very bouldery-----	30	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50
67C: Tumbling-----	50	Well suited		Moderately suited Slope	0.50	Well suited	
Vanella-----	40	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Well suited	
67D: Tumbling-----	50	Well suited		Poorly suited Slope	0.75	Moderately suited Slope	0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
67D: Vanella-----	40	Well suited		Poorly suited Rock fragments Slope	0.50 0.75	Moderately suited Slope	0.50
67E: Tumbling-----	50	Well suited		Unsuited Slope	1.00	Moderately suited Slope	0.50
Vanella-----	40	Well suited		Unsuited Slope Rock fragments	1.00 0.50	Moderately suited Slope	0.50
68D: Tumbling-----	35	Well suited		Moderately suited Slope	0.50	Well suited	
Vanella-----	30	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Well suited	
Urban land-----	25	Not rated		Not rated		Not rated	
69A: Tygart-----	55	Poorly suited Wetness	0.75	Poorly suited Wetness	0.75	Poorly suited Wetness Low strength	1.00 0.50
Purdy-----	40	Poorly suited Wetness Stickiness; high plasticity index	0.75 0.50	Poorly suited Wetness Stickiness; high plasticity index	0.75 0.50	Poorly suited Wetness Low strength	1.00 0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70: Udorthents, refuse substratum-----	85	Not rated		Not rated		Not rated	
71: Udorthents-----	50	Not rated		Not rated		Not rated	
Urban land-----	45	Not rated		Not rated		Not rated	
72C: Unaka, very stony---	60	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Well suited	
Plott, very stony---	30	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Well suited	
72E: Unaka, very stony---	65	Well suited		Poorly suited Slope Rock fragments		Moderately suited Slope	0.50
Plott, very stony---	30	Well suited		Poorly suited Slope Rock fragments		Moderately suited Slope	0.50
73C: Vanella, very stony-----	50	Moderately suited Rock fragments	0.50	Moderately suited Rock fragments Slope	0.50 0.50	Well suited	

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73C: Tumbling, very stony-----	40	Well suited					
				Moderately suited Rock fragments	0.50	Well suited	
				Slope	0.50		
73E: Vanella, very stony-----	50	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments		Moderately suited Slope	0.50
Tumbling, very stony-----	40	Well suited		Poorly suited Slope Rock fragments		Moderately suited Slope	0.50
74C: Watahala, very stony-----	60	Well suited		Moderately suited Rock fragments Slope	0.50	Well suited	
Frederick, very stony-----	30	Moderately suited Rock fragments	0.50	Moderately suited Rock fragments Slope		Well suited	
74E: Watahala, very stony-----	50	Well suited		Poorly suited Slope Rock fragments		Moderately suited Slope	0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74E: Frederick, very stony-----	35	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
74F: Watahala, very stony-----	60	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
Frederick, very stony-----	20	Moderately suited Slope Rock fragments	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
75E: Weikert-----	45	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Low strength Slope	0.50 0.50
Berks-----	30	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Low strength Slope	0.50 0.50
Rough-----	20	Unsuited Restrictive layer Rock fragments	1.00 0.50	Unsuited Rock fragments Restrictive layer	1.00 0.75 0.50	Moderately suited Slope	0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75F: Weikert-----	45	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Low strength	1.00 0.50
Berks-----	30	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Low strength	1.00 0.50
Rough-----	15	Unsuited Restrictive layer Rock fragments Slope	1.00 0.50 0.50	Unsuited Slope Rock fragments Restrictive layer	1.00 1.00 0.50	Poorly suited Slope Low strength	1.00
76G: Weikert-----	35	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Low strength	1.00 0.50
Rough-----	30	Unsuited Restrictive layer Slope Rock fragments	1.00 0.50 0.50	Unsuited Slope Rock fragments Restrictive layer	1.00 1.00 0.50	Poorly suited Slope Low strength	1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	
77C: Wintergreen-----	90	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index Slope	0.75 10.50	Moderately suited Low strength	0.50

Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
77D: Wintergreen-----	90	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Slope Stickiness; high plasticity index	0.75	Moderately suited Low strength Slope	0.50 0.50
77E: Wintergreen-----	90	Poorly suited Stickiness; high plasticity index	0.75	Unsuited Slope Stickiness; high plasticity index	1.00 0.75	Moderately suited Slope Low strength	0.50 0.50
78E: Wintergreen, very stony-----	85	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Slope Rock fragments Stickiness; high plasticity index	0.75 0.50 0.75	Moderately suited Low strength Slope	0.50 0.50
79A: Wolfgap-----	90	Well suited		Well suited		Moderately suited Low strength	0.50
80A: Wolfgap-----	35	Well suited		Well suited		Moderately suited Low strength	0.50
Derroc-----	30	Moderately suited Rock fragments	0.50	Unsuited Rock fragments	1.00	Well suited	
Urban land-----	25	Not rated		Not rated		Not rated	



Table 9.-Forestland Management, Part III--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
W:							
Water-----	100	Not rated		Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 9.—Forestland Management, Part IV

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1A: Alonzville, rarely flooded-----	80	Well suited		Well suited	
2B: Alonzville-----	80	Well suited		Well suited	
3B: Alonzville-----	50	Well suited		Well suited	
Urban land-----	45	Not rated		Not rated	
4C: Berks-----	50	Poorly suited Rock fragments	0.50	Unsuited Restrictive layer	1.00
Weikert-----	40	Poorly suited Rock fragments	0.50	Unsuited Restrictive layer	1.00
5A: Botetourt-----	90	Well suited		Well suited	
6A: Botetourt-----	50	Well suited		Well suited	
Urban land-----	45	Not rated		Not rated	
7A: Buckton-----	55	Well suited		Well suited	
Weaver-----	30	Well suited		Well suited	
8F: Caneyville-----	60	Unsuited Slope Stickiness; high plasticity index	1.00 0.50	Unsuited Slope Restrictive layer	1.00 0.50
Frederick-----	20	Unsuited Slope	1.00	Unsuited Slope	1.00
Rock outcrop-----	15	Not rated		Not rated	
9C: Carbo, very rocky---	55	Poorly suited Stickiness; high plasticity index	0.50	Well suited	
Opequon, very rocky-----	30	Poorly suited Stickiness; high plasticity index	0.50	Unsuited Restrictive layer	1.00

# Soil Survey of Rockbridge County, Virginia

Table 9.—Forestland Management, Part IV--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
9E:					
Carbo, very rocky---	50	Poorly suited Slope Stickiness; high plasticity index	0.50 0.50	Poorly suited Slope	0.50
Opequon, very rocky-----	35	Poorly suited Slope Stickiness; high plasticity index	0.50 0.50	Unsuited Restrictive layer Slope	1.00 0.50
10F:					
Carbo-----	55	Unsuited Slope Stickiness; high plasticity index	1.00 0.50	Unsuited Slope	1.00
Opequon-----	25	Unsuited Slope Stickiness; high plasticity index	1.00 0.50	Unsuited Slope Restrictive layer	1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	
11B:					
Cottonbend-----	85	Well suited		Well suited	
11C:					
Cottonbend-----	85	Well suited		Well suited	
12A:					
Coursey, rarely flooded-----	80	Well suited		Well suited	
13B:					
Coursey-----	80	Well suited		Well suited	
14C:					
Dekalb, very stony-----	50	Poorly suited Rock fragments	0.50	Poorly suited Restrictive layer Rock fragments	0.50 0.50
Lehew, very stony---	20	Poorly suited Rock fragments	0.50	Well suited	
Berks, very stony---	15	Poorly suited Rock fragments	0.50	Unsuited Restrictive layer	1.00
14E:					
Dekalb, very stony-----	50	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope Restrictive layer Rock fragments	0.50 0.50 0.50
Lehew, very stony---	20	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50

# Soil Survey of Rockbridge County, Virginia

Table 9.—Forestland Management, Part IV--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
14E: Berks, very stony---	15	Poorly suited Slope Rock fragments	0.50 0.50	Unsuited Restrictive layer Slope	1.00 0.50
14F: Dekalb, very stony-----	50	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Restrictive layer Rock fragments	1.00 0.50 0.50
Lehew, very stony---	20	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope	1.00
Berks, very stony---	15	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Restrictive layer Slope	1.00 1.00
15E: Dekalb, extremely stony-----	50	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope Rock fragments Restrictive layer	0.50 0.50 0.50
Lehew, extremely stony-----	30	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope Rock fragments	0.50 0.50
Rock outcrop-----	15	Not rated		Not rated	
15F: Dekalb, extremely stony-----	50	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments Restrictive layer	1.00 0.50 0.50
Lehew, extremely stony-----	20	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Rock outcrop-----	15	Not rated		Not rated	
16C: Dekalb, very stony-----	60	Poorly suited Rock fragments	0.50	Poorly suited Restrictive layer Rock fragments	0.50 0.50
Lily, very stony---	30	Well suited		Poorly suited Restrictive layer	0.50

# Soil Survey of Rockbridge County, Virginia

Table 9.—Forestland Management, Part IV--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
16E: Dekalb, very stony-----	50	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope Restrictive layer Rock fragments	0.50 0.50 0.50
Lily, very stony----	40	Poorly suited Slope	0.50	Poorly suited Slope Restrictive layer	0.50 0.50
17F: Dekalb, very stony-----	75	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Restrictive layer Rock fragments	1.00 0.50 0.50
Lily, very stony----	20	Unsuited Slope	1.00	Unsuited Slope Restrictive layer	1.00 0.50
18A: Derroc-----	85	Poorly suited Rock fragments	0.50	Well suited	
19C: Edneytown-----	90	Well suited		Well suited	
19D: Edneytown-----	90	Poorly suited Slope	0.50	Poorly suited Slope	0.50
20C: Edneytown, very stony-----	60	Well suited		Well suited	
Peaks, very stony----	35	Poorly suited Rock fragments	0.50	Unsuited Restrictive layer	1.00
20E: Edneytown, very stony-----	60	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Peaks, very stony----	35	Poorly suited Slope Rock fragments	0.50 0.50	Unsuited Restrictive layer Slope	1.00 0.50
20F: Edneytown, very stony-----	60	Unsuited Slope	1.00	Unsuited Slope	1.00
Peaks, very stony----	35	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Restrictive layer Slope	1.00 1.00
21B: Escatawba-----	80	Well suited		Well suited	

# Soil Survey of Rockbridge County, Virginia

Table 9.—Forestland Management, Part IV--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
21C: Escatawba-----	80	Well suited		Well suited	
22B: Frederick-----	85	Well suited		Well suited	
22C: Frederick-----	80	Well suited		Well suited	
22D: Frederick-----	80	Poorly suited Slope	0.50	Poorly suited Slope	0.50
23E: Frederick-----	65	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Caneyville-----	30	Poorly suited Slope Stickiness; high plasticity index	0.50 0.50	Poorly suited Slope Restrictive layer	0.50 0.50
24C: Frederick, very rocky-----	45	Well suited		Well suited	
Caneyville, very rocky-----	35	Poorly suited Stickiness; high plasticity index	0.50	Poorly suited Restrictive layer	0.50
24E: Frederick, very rocky-----	40	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Caneyville, very rocky-----	38	Poorly suited Slope Stickiness; high plasticity index	0.50 0.50	Poorly suited Slope Restrictive layer	0.50 0.50
25C: Frederick-----	60	Well suited		Well suited	
Watahala-----	30	Poorly suited Rock fragments	0.50	Well suited	
25D: Frederick-----	45	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Watahala-----	35	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50
25E: Frederick-----	50	Poorly suited Slope	0.50	Poorly suited Slope	0.50

# Soil Survey of Rockbridge County, Virginia

Table 9.—Forestland Management, Part IV--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
25E: Watahala-----	40	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50
26A: Gladehill-----	85	Well suited		Well suited	
27B: Groseclose-----	80	Well suited		Well suited	
27C: Groseclose-----	80	Well suited		Well suited	
27D: Groseclose-----	80	Poorly suited Slope	0.50	Poorly suited Slope	0.50
28E: Groseclose-----	50	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Needmore-----	40	Poorly suited Slope	0.50	Poorly suited Slope	0.50
29C: Groseclose-----	35	Well suited		Well suited	
Needmore-----	30	Well suited		Well suited	
Urban land-----	25	Not rated		Not rated	
30A: Holly-----	50	Poorly suited Wetness	0.75	Unsuited Wetness	1.00
Orrville-----	45	Poorly suited Wetness	0.75	Unsuited Wetness	1.00
31A: Ingledove-----	85	Well suited		Well suited	
32A: Irongate-----	85	Well suited		Well suited	
33C: Litz-----	35	Poorly suited Rock fragments	0.50	Well suited	
Chiswell-----	30	Poorly suited Rock fragments	0.50	Well suited	
Groseclose-----	20	Well suited		Well suited	
33E: Litz-----	35	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50
Chiswell-----	25	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50

# Soil Survey of Rockbridge County, Virginia

Table 9.—Forestland Management, Part IV--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
33E: Groseclose-----	25	Poorly suited Slope	0.50	Poorly suited Slope	0.50
33F: Litz-----	35	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope	1.00
Chiswell-----	30	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope	1.00
Groseclose-----	20	Unsuited Slope	1.00	Unsuited Slope	1.00
34C: Litz, very stony----	55	Poorly suited Rock fragments	0.50	Well suited	
Needmore, very stony-----	35	Well suited		Well suited	
34E: Litz, very stony----	55	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50
Needmore, very stony-----	35	Poorly suited Slope	0.50	Poorly suited Slope	0.50
34F: Litz, very stony----	55	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope	1.00
Needmore, very stony-----	35	Unsuited Slope	1.00	Unsuited Slope	1.00
35C: Lodi-----	40	Well suited		Well suited	
McClung-----	35	Well suited		Well suited	
Lily-----	20	Well suited		Poorly suited Restrictive layer	0.50
35E: Lodi-----	35	Poorly suited Slope	0.50	Poorly suited Slope	0.50
McClung-----	30	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Lily-----	25	Poorly suited Slope	0.50	Poorly suited Slope Restrictive layer	0.50 0.50



# Soil Survey of Rockbridge County, Virginia

Table 9.—Forestland Management, Part IV--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
36C: Lostcove, extremely stony-----	80	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
37E: Lostcove, very stony-----	80	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope Rock fragments	0.50 0.50
37F: Lostcove, very stony-----	80	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
38E: Marbleyard, extremely stony----	70	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope Rock fragments	0.50 0.50
Rock outcrop-----	15	Not rated		Not rated	
39F: Marbleyard, extremely stony----	45	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Sherando, extremely stony-----	30	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Rock outcrop-----	20	Not rated		Not rated	
39G: Marbleyard, extremely stony----	45	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Sherando, extremely stony-----	30	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Rock outcrop-----	20	Not rated		Not rated	
40A: Maurertown-----	50	Poorly suited Wetness Stickiness; high plasticity index	0.75 0.50	Unsuited Wetness	1.00
Toms-----	45	Poorly suited Wetness	0.75	Unsuited Wetness	1.00

# Soil Survey of Rockbridge County, Virginia

Table 9.—Forestland Management, Part IV--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
41C: McCamy, very stony-----	85	Well suited		Poorly suited Restrictive layer	0.50
42F: McClung, very stony-----	40	Unsuited Slope	1.00	Unsuited Slope	1.00
Caneyville, very stony-----	30	Unsuited Slope Stickiness; high plasticity index	1.00 0.50	Unsuited Slope Restrictive layer	1.00 0.50
Dekalb, very stony-----	25	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Restrictive layer Rock fragments	1.00 0.50 0.50
43C: Needmore-----	60	Well suited		Well suited	
Opequon-----	30	Poorly suited Stickiness; high plasticity index	0.50	Unsuited Restrictive layer	1.00
43E: Needmore-----	55	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Opequon-----	35	Poorly suited Slope Stickiness; high plasticity index	0.50 0.50	Unsuited Restrictive layer Slope	1.00 0.50
43F: Needmore-----	50	Unsuited Slope	1.00	Unsuited Slope	1.00
Opequon-----	40	Unsuited Slope Stickiness; high plasticity index	1.00 0.50	Unsuited Slope Restrictive layer	1.00 1.00
44E: Needmore-----	70	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Urban land-----	25	Not rated		Not rated	
45B: Nicelytown-----	80	Well suited		Well suited	
46B: Nicelytown-----	50	Well suited		Well suited	
Urban land-----	45	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 9.—Forestland Management, Part IV--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
47C: Oriskany, extremely stony-----	65	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
Laidig, extremely stony-----	25	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
47E: Oriskany, extremely stony-----	60	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Slope Rock fragments	0.50 0.50
Laidig, extremely stony-----	30	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope Rock fragments	0.50 0.50
48F: Oriskany, extremely stony-----	80	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
49C: Oriskany, extremely stony-----	55	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
Murrill, extremely stony-----	35	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
49E: Oriskany, extremely stony-----	55	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope Rock fragments	0.50 0.50
Murrill, extremely stony-----	35	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope Rock fragments	0.50 0.50
49F: Oriskany, extremely stony-----	65	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Murrill, extremely stony-----	25	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
50E: Peaks, very rocky---	55	Poorly suited Slope Rock fragments	0.50 0.50	Unsuited Restrictive layer Slope	1.00 0.50

# Soil Survey of Rockbridge County, Virginia

Table 9.—Forestland Management, Part IV--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
50E: Edneytown, very rocky-----	40	Poorly suited Slope	0.50	Poorly suited Slope	0.50
50F: Peaks, very rocky---	55	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Restrictive layer Slope	1.00 1.00
Edneytown, very rocky-----	40	Unsuited Slope	1.00	Unsuited Slope	1.00
51A: Philo-----	75	Well suited		Well suited	
52C: Pignut, very stony-----	50	Well suited		Well suited	
Myersville, very stony-----	40	Well suited		Well suited	
53E: Pignut, very stony-----	90	Poorly suited Slope	0.50	Poorly suited Slope	0.50
53F: Pignut, very stony-----	90	Unsuited Slope	1.00	Unsuited Slope	1.00
54: Pits-----	50	Not rated		Not rated	
Dumps-----	45	Not rated		Not rated	
55A: Pope-----	90	Well suited		Well suited	
56G: Rock outcrop-----	60	Not rated		Not rated	
Opequon-----	25	Unsuited Slope Stickiness; high plasticity index	1.00 0.50	Unsuited Slope Restrictive layer	1.00 1.00
57A: Sensabaugh-----	40	Well suited		Well suited	
Lobdell-----	30	Well suited		Well suited	
Derroc-----	20	Poorly suited Rock fragments	0.50	Well suited	
58B: Shottower-----	90	Well suited		Well suited	

# Soil Survey of Rockbridge County, Virginia

Table 9.—Forestland Management, Part IV--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
58C: Shottower-----	90	Well suited		Well suited	
58D: Shottower-----	85	Poorly suited Slope	0.50	Poorly suited Slope	0.50
59E: Shottower-----	85	Poorly suited Slope	0.50	Poorly suited Slope	0.50
60C: Shottower-----	50	Well suited		Well suited	
Urban land-----	45	Not rated		Not rated	
61B: Slabtown-----	80	Well suited		Well suited	
61C: Slabtown-----	80	Well suited		Well suited	
62: Slickens-----	100	Not rated		Not rated	
63E: Stumptown, extremely stony----	40	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Rock fragments Slope Restrictive layer	0.50 0.50 0.50
Marbleyard, extremely stony----	35	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope Rock fragments	0.50 0.50
Rock outcrop-----	15	Not rated		Not rated	
63F: Stumptown, extremely stony----	40	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments Restrictive layer	1.00 0.50 0.50
Marbleyard, extremely stony----	35	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Rock outcrop-----	15	Not rated		Not rated	
63G: Stumptown, extremely stony----	40	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments Restrictive layer	1.00 0.50 0.50

# Soil Survey of Rockbridge County, Virginia

Table 9.—Forestland Management, Part IV--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
63G: Marbleyard, extremely stony----	35	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Rock outcrop-----	15	Not rated		Not rated	
64E: Stumptown, very stony-----	50	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Rock fragments Slope Restrictive layer	0.50 0.50 0.50
Sylco, very stony---	45	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope Restrictive layer	0.50 0.50
64F: Stumptown, very stony-----	50	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments Restrictive layer	1.00 0.50 0.50
Sylco, very stony---	35	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Restrictive layer	1.00 0.50
65E: Sylco, very rocky---	45	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope Restrictive layer	0.50 0.50
Marbleyard, very rocky-----	40	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope Rock fragments	0.50 0.50
65F: Sylco, very rocky---	50	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Restrictive layer	1.00 0.50
Marbleyard, very rocky-----	45	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
65G: Sylco, very rocky---	50	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Restrictive layer	1.00 0.50
Marbleyard, very rocky-----	35	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50

# Soil Survey of Rockbridge County, Virginia

Table 9.—Forestland Management, Part IV--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
66C: Thunder, very bouldery-----	50	Poorly suited Rock fragments	0.50	Well suited	
Saunook, very bouldery-----	30	Poorly suited Rock fragments	0.50	Well suited	
66E: Thunder, very bouldery-----	50	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50
Saunook, very bouldery-----	30	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50
66F: Thunder, very bouldery-----	50	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope	1.00
Saunook, very bouldery-----	30	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope	1.00
67C: Tumbling-----	50	Well suited		Well suited	
Vanella-----	40	Well suited		Well suited	
67D: Tumbling-----	50	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Vanella-----	40	Poorly suited Slope	0.50	Poorly suited Slope	0.50
67E: Tumbling-----	50	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Vanella-----	40	Poorly suited Slope	0.50	Poorly suited Slope	0.50
68D: Tumbling-----	35	Well suited		Well suited	
Vanella-----	30	Well suited		Well suited	
Urban land-----	25	Not rated		Not rated	
69A: Tygart-----	55	Poorly suited Wetness	0.75	Unsuited Wetness	1.00

# Soil Survey of Rockbridge County, Virginia

Table 9.—Forestland Management, Part IV--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
69A: Purdy-----	40	Poorly suited Wetness	0.75	Unsuited Wetness	1.00
70: Udorthents, refuse substratum-----	85	Not rated		Not rated	
71: Udorthents-----	50	Not rated		Not rated	
Urban land-----	45	Not rated		Not rated	
72C: Unaka, very stony---	60	Well suited		Poorly suited Restrictive layer	0.50
Plott, very stony---	30	Well suited		Well suited	
72E: Unaka, very stony---	65	Poorly suited Slope	0.50	Poorly suited Slope Restrictive layer	0.50 0.50
Plott, very stony---	30	Poorly suited Slope	0.50	Poorly suited Slope	0.50
73C: Vanella, very stony-----	50	Poorly suited Rock fragments	0.50	Well suited	
Tumbling, very stony-----	40	Well suited		Well suited	
73E: Vanella, very stony-----	50	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50
Tumbling, very stony-----	40	Poorly suited Slope	0.50	Poorly suited Slope	0.50
74C: Watahala, very stony-----	60	Well suited		Well suited	
Frederick, very stony-----	30	Poorly suited Rock fragments	0.50	Well suited	
74E: Watahala, very stony-----	50	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Frederick, very stony-----	35	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50



# Soil Survey of Rockbridge County, Virginia

Table 9.—Forestland Management, Part IV--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
74F: Watahala, very stony-----	60	Unsuited Slope	1.00	Unsuited Slope	1.00
Frederick, very stony-----	20	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope	1.00
75E: Weikert-----	45	Poorly suited Slope Rock fragments	0.50 0.50	Unsuited Restrictive layer Slope	1.00 0.50
Berks-----	30	Poorly suited Slope Rock fragments	0.50 0.50	Unsuited Restrictive layer Slope	1.00 0.50
Rough-----	20	Poorly suited Slope Restrictive layer Rock fragments	0.50 0.50 0.50	Unsuited Restrictive layer Slope	1.00 0.50
75F: Weikert-----	45	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Restrictive layer Slope	1.00 1.00
Berks-----	30	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Restrictive layer Slope	1.00 1.00
Rough-----	15	Unsuited Slope Restrictive layer Rock fragments	1.00 0.50 0.50	Unsuited Restrictive layer Slope	1.00 1.00
76G: Weikert-----	35	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Restrictive layer	1.00 1.00
Rough-----	30	Unsuited Slope Restrictive layer Rock fragments	1.00 0.50 0.50	Unsuited Slope Restrictive layer	1.00 1.00
Rock outcrop-----	25	Not rated		Not rated	
77C: Wintergreen-----	90	Poorly suited Stickiness; high plasticity index	0.50	Well suited	
77D: Wintergreen-----	90	Poorly suited Slope Stickiness; high plasticity index	0.50 0.50	Poorly suited Slope	0.50

# Soil Survey of Rockbridge County, Virginia

Table 9.—Forestland Management, Part IV--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
77E: Wintergreen-----	90	Poorly suited Slope Stickiness; high plasticity index	0.50 0.50	Poorly suited Slope	0.50
78E: Wintergreen, very stony-----	85	Poorly suited Slope Stickiness; high plasticity index	0.50 0.50	Poorly suited Slope	0.50
79A: Wolfgap-----	90	Well suited		Well suited	
80A: Wolfgap-----	35	Well suited		Well suited	
Derroc-----	30	Poorly suited Rock fragments	0.50	Well suited	
Urban land-----	25	Not rated		Not rated	
W: Water-----	100	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 9.—Forestland Management, Part V

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1A: Alonzville, rarely flooded-----	80	Low Texture/rock fragments	0.10	Low	
2B: Alonzville-----	80	Low Texture/rock fragments	0.10	Low	
3B: Alonzville-----	50	Low Texture/rock fragments	0.10	Low	
Urban land-----	45	Not rated		Not rated	
4C: Berks-----	50	Moderate Texture/surface depth/rock fragments	0.50	Low	
Weikert-----	40	Moderate Texture/surface depth/rock fragments	0.50	Low	
5A: Botetourt-----	90	Low Texture/rock fragments	0.10	Low	
6A: Botetourt-----	50	Low Texture/rock fragments	0.10	Low	
Urban land-----	45	Not rated		Not rated	
7A: Buckton-----	55	Low Texture/rock fragments	0.10	Low	
Weaver-----	30	Low Texture/rock fragments	0.10	Moderate Soil reaction	0.50
8F: Caneyville-----	60	High Texture/slope/ surface depth/ rock fragments	1.00	Low	

# Soil Survey of Rockbridge County, Virginia

Table 9.--Forestland Management, Part V--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire	Potential for seedling mortality		
		Rating class and limiting features	Value	Rating class and limiting features	Value
8F:					
Frederick-----	20	Moderate Texture/rock fragments	0.50	Low	
Rock outcrop-----	15	Not rated		Not rated	
9C:					
Carbo, very rocky---	55	High Texture/surface depth/rock fragments	1.00	Low	
Opequon, very rocky-----	30	High Texture/surface depth/rock fragments	1.00	Low	
9E:					
Carbo, very rocky---	50	High Texture/surface depth/rock fragments	1.00	Low	
Opequon, very rocky-----	35	High Texture/surface depth/rock fragments	1.00	Low	
10F:					
Carbo-----	55	High Texture/slope/ surface depth	1.00	Low	
Opequon-----	25	High Texture/slope/ surface depth	1.00	Low	
Rock outcrop-----	15	Not rated		Not rated	
11B:					
Cottonbend-----	85	Moderate Texture/rock fragments	0.50	Low	
11C:					
Cottonbend-----	85	Moderate Texture/rock fragments	0.50	Low	
12A:					
Coursey, rarely flooded-----	80	Low Texture/rock fragments	0.10	Low	
13B:					
Coursey-----	80	Low Texture/rock fragments	0.10	Low	

# Soil Survey of Rockbridge County, Virginia

Table 9.--Forestland Management, Part V--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire	Potential for seedling mortality		
		Rating class and limiting features	Value	Rating class and limiting features	Value
14C:					
Dekalb, very stony-----	50	Moderate Texture/surface depth/rock fragments	0.50	Low	
Lehew, very stony---	20	High Texture/surface depth/rock fragments	1.00	Low	
Berks, very stony---	15	Moderate Texture/surface depth/rock fragments	0.50	Low	
14E:					
Dekalb, very stony-----	50	Moderate Texture/surface depth/rock fragments	0.50	Low	
Lehew, very stony---	20	High Texture/surface depth/rock fragments	1.00	Low	
Berks, very stony---	15	Moderate Texture/surface depth/rock fragments	0.50	Low	
14F:					
Dekalb, very stony-----	50	High Texture/slope/ surface depth/ rock fragments	1.00	Low	
Lehew, very stony---	20	High Texture/slope/ surface depth/ rock fragments	1.00	Low	
Berks, very stony---	15	High Texture/slope/ surface depth/ rock fragments	1.00	Low	
15E:					
Dekalb, extremely stony-----	50	Moderate Texture/surface depth/rock fragments	0.50	Low	
Lehew, extremely stony-----	30	High Texture/surface depth/rock fragments	1.00	Low	

# Soil Survey of Rockbridge County, Virginia

Table 9.--Forestland Management, Part V--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire	Potential for seedling mortality		
		Rating class and limiting features	Value	Rating class and limiting features	Value
15E: Rock outcrop-----	15	Not rated		Not rated	
15F: Dekalb, extremely stony-----	50	High Texture/slope/ surface depth/ rock fragments	1.00	Low	
Lehew, extremely stony-----	20	High Texture/slope/ surface depth/ rock fragments	1.00	Low	
Rock outcrop-----	15	Not rated		Not rated	
16C: Dekalb, very stony-----	60	Moderate Texture/surface depth/rock fragments	0.50	Low	
Lily, very stony----	30	Moderate Texture/surface depth/rock fragments	0.50	Moderate Soil reaction	0.50
16E: Dekalb, very stony-----	50	Moderate Texture/surface depth/rock fragments	0.50	Low	
Lily, very stony----	40	Moderate Texture/surface depth/rock fragments	0.50	Moderate Soil reaction	0.50
17F: Dekalb, very stony-----	75	High Texture/slope/ surface depth/ rock fragments	1.00	Low	
Lily, very stony----	20	High Texture/slope/ surface depth/ rock fragments	1.00	Moderate Soil reaction	0.50
18A: Derroc-----	85	Moderate Texture/surface depth/rock fragments	0.50	Low	

# Soil Survey of Rockbridge County, Virginia

Table 9.--Forestland Management, Part V--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire	Potential for seedling mortality		
		Rating class and limiting features	Value	Rating class and limiting features	Value
19C: Edneytown-----	90	Low Texture/surface depth/rock fragments	0.10	Low	
19D: Edneytown-----	90	Low Texture/surface depth/rock fragments	0.10	Low	
20C: Edneytown, very stony-----	60	Low Texture/surface depth/rock fragments	0.10	Low	
Peaks, very stony---	35	Moderate Texture/rock fragments	0.50	Low	
20E: Edneytown, very stony-----	60	Low Texture/surface depth/rock fragments	0.10	Low	
Peaks, very stony---	35	Moderate Texture/rock fragments	0.50	Low	
20F: Edneytown, very stony-----	60	Moderate Texture/slope/ surface depth/ rock fragments	0.50	Low	
Peaks, very stony---	35	Moderate Texture/slope/ rock fragments	0.50	Low	
21B: Escatawba-----	80	Moderate Texture/surface depth/rock fragments	0.50	Low	
21C: Escatawba-----	80	Moderate Texture/surface depth/rock fragments	0.50	Low	
22B: Frederick-----	85	Moderate Texture/rock fragments	0.50	Low	

# Soil Survey of Rockbridge County, Virginia

Table 9.--Forestland Management, Part V--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire	Potential for seedling mortality		
		Rating class and limiting features	Value	Rating class and limiting features	Value
22C: Frederick-----	80	Moderate Texture/rock fragments	0.50	Low	
22D: Frederick-----	80	Moderate Texture/rock fragments	0.50	Low	
23E: Frederick-----	65	Moderate Texture/rock fragments	0.50	Low	
Caneyville-----	30	High Texture/slope/ surface depth/ rock fragments	1.00	Low	
24C: Frederick, very rocky-----	45	Moderate Texture/rock fragments	0.50	Low	
Caneyville, very rocky-----	35	Moderate Texture/surface depth/rock fragments	0.50	Low	
24E: Frederick, very rocky-----	40	Moderate Texture/rock fragments	0.50	Low	
Caneyville, very rocky-----	38	Moderate Texture/surface depth/rock fragments	0.50	Low	
25C: Frederick-----	60	Moderate Texture/rock fragments	0.50	Low	
Watahala-----	30	Moderate Texture/surface depth/rock fragments	0.50	Low	
25D: Frederick-----	45	Moderate Texture/rock fragments	0.50	Low	
Watahala-----	35	Moderate Texture/surface depth/rock fragments	0.50	Low	



# Soil Survey of Rockbridge County, Virginia

Table 9.-Forestland Management, Part V--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire	Potential for seedling mortality		
		Rating class and limiting features	Value	Rating class and limiting features	Value
25E: Frederick-----	50	Moderate Texture/slope/ rock fragments	0.50	Low	
Watahala-----	40	High Texture/slope/ surface depth/ rock fragments	1.00	Low	
26A: Gladehill-----	85	Low Texture/rock fragments	0.10	Low	
27B: Groseclose-----	80	Moderate Texture/surface depth/rock fragments	0.50	Low	
27C: Groseclose-----	80	Moderate Texture/surface depth/rock fragments	0.50	Low	
27D: Groseclose-----	80	Moderate Texture/surface depth/rock fragments	0.50	Low	
28E: Groseclose-----	50	High Texture/slope/ surface depth/ rock fragments	1.00	Low	
Needmore-----	40	Moderate Texture/slope/ rock fragments	0.50	Low	
29C: Groseclose-----	35	Moderate Texture/surface depth/rock fragments	0.50	Low	
Needmore-----	30	Moderate Texture/rock fragments	0.50	Low	
Urban land-----	25	Not rated		Not rated	
30A: Holly-----	50	Low Texture/surface depth/rock fragments	0.10	High Wetness	1.00

# Soil Survey of Rockbridge County, Virginia

Table 9.--Forestland Management, Part V--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire	Potential for seedling mortality		
		Rating class and limiting features	Value	Rating class and limiting features	Value
30A: Orrville-----	45	Low Texture/rock fragments	0.10	High Wetness	1.00
31A: Ingledove-----	85	Low Texture/rock fragments	0.10	Low	
32A: Irongate-----	85	Low Texture/rock fragments	0.10	Low	
33C: Litz-----	35	Moderate Texture/rock fragments	0.50	Low	
Chiswell-----	30	Moderate Texture/rock fragments	0.50	Low	
Groseclose-----	20	Moderate Texture/surface depth/rock fragments	0.50	Low	
33E: Litz-----	35	Moderate Texture/rock fragments	0.50	Low	
Chiswell-----	25	Moderate Texture/rock fragments	0.50	Low	
Groseclose-----	25	Moderate Texture/surface depth/rock fragments	0.50	Low	
33F: Litz-----	35	Moderate Texture/slope/ rock fragments	0.50	Low	
Chiswell-----	30	Moderate Texture/rock fragments	0.50	Low	
Groseclose-----	20	High Texture/slope/ surface depth/ rock fragments	1.00	Low	
34C: Litz, very stony----	55	Moderate Texture/rock fragments	0.50	Low	

# Soil Survey of Rockbridge County, Virginia

Table 9.--Forestland Management, Part V--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire	Potential for seedling mortality		
		Rating class and limiting features	Value	Rating class and limiting features	Value
34C: Needmore, very stony-----	35	Moderate Texture/rock fragments	0.50	Low	
34E: Litz, very stony----	55	Moderate Texture/rock fragments	0.50	Low	
Needmore, very stony-----	35	Moderate Texture/rock fragments	0.50	Low	
34F: Litz, very stony----	55	Moderate Texture/slope/ rock fragments	0.50	Low	
Needmore, very stony-----	35	Low		Low	
35C: Lodi-----	40	Moderate Texture/rock fragments	0.50	Low	
McClung-----	35	Moderate Texture/surface depth/rock fragments	0.50	Moderate Soil reaction	0.50
Lily-----	20	Moderate Texture/surface depth/rock fragments	0.50	Moderate Soil reaction	0.50
35E: Lodi-----	35	Moderate Texture/rock fragments	0.50	Low	
McClung-----	30	Moderate Texture/surface depth/rock fragments	0.50	Moderate Soil reaction	0.50
Lily-----	25	Moderate Texture/surface depth/rock fragments	0.50	Moderate Soil reaction	0.50
36C: Lostcove, extremely stony-----	80	High Texture/surface depth/rock fragments	1.00	Low	

# Soil Survey of Rockbridge County, Virginia

Table 9.-Forestland Management, Part V--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire	Potential for seedling mortality		
		Rating class and limiting features	Value	Rating class and limiting features	Value
37E: Lostcove, very stony-----	80	High Texture/surface depth/rock fragments	1.00	Low	
37F: Lostcove, very stony-----	80	High Texture/slope/ surface depth/ rock fragments	1.00	Low	
38E: Marbleyard, extremely stony----	70	High Texture/surface depth/rock fragments	1.00	Moderate Soil reaction	0.50
Rock outcrop-----	15	Not rated		Not rated	
39F: Marbleyard, extremely stony----	45	High Texture/slope/ surface depth/ rock fragments	1.00	Moderate Soil reaction	0.50
Sherando, extremely stony-----	30	Moderate Texture/slope/ rock fragments	0.50	Low	
Rock outcrop-----	20	Not rated		Not rated	
39G: Marbleyard, extremely stony----	45	High Texture/slope/ surface depth/ fragments	1.00	Moderate Soil reaction	0.50
Sherando, extremely stony-----	30	Moderate Texture/slope/ rock fragments	0.50	Low	
Rock outcrop-----	20	Not rated		Not rated	
40A: Maurertown-----	50	Low Texture/rock fragments	0.10	High Wetness	1.00
Toms-----	45	Low Texture/rock fragments	0.10	High Wetness	1.00

# Soil Survey of Rockbridge County, Virginia

Table 9.-Forestland Management, Part V--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire	Potential for seedling mortality		
		Rating class and limiting features	Value	Rating class and limiting features	Value
41C: McCamy, very stony-----	85	Low Texture/surface depth/rock fragments	0.10	Low	
42F: McClung, very stony-----	40	High Texture/slope/ surface depth/ rock fragments	1.00	Moderate Soil reaction	0.50
Caneyville, very stony-----	30	High Texture/slope/ surface depth/ rock fragments	1.00	Low	
Dekalb, very stony-----	25	High Texture/slope/ surface depth/ rock fragments	1.00	Low	
43C: Needmore-----	60	Moderate Texture/rock fragments	0.50	Low	
Opequon-----	30	High Texture/surface depth/rock fragments	1.00	Low	
43E: Needmore-----	55	Moderate Texture/rock fragments	0.50	Low	
Opequon-----	35	High Texture/surface depth/rock fragments	1.00	Low	
43F: Needmore-----	50	Low		Low	
Opequon-----	40	High Texture/slope/ surface depth	1.00	Low	
44E: Needmore-----	70	Moderate Texture/rock fragments	0.50	Low	
Urban land-----	25	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 9.--Forestland Management, Part V--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire	Potential for seedling mortality		
		Rating class and limiting features	Value	Rating class and limiting features	Value
45B: Nicelytown-----	80	Moderate Texture/surface depth/rock fragments	0.50	Low	
46B: Nicelytown-----	50	Moderate Texture/surface depth/rock fragments	0.50	Low	
Urban land-----	45	Not rated		Not rated	
47C: Oriskany, extremely stony-----	65	Moderate Texture/rock fragments	0.50	Low	
Laidig, extremely stony-----	25	Moderate Texture/surface depth/rock fragments	0.50	Low	
47E: Oriskany, extremely stony-----	60	Moderate Texture/rock fragments	0.50	Low	
Laidig, extremely stony-----	30	Moderate Texture/surface depth/rock fragments	0.50	Low	
48F: Oriskany, extremely stony-----	80	Moderate Texture/slope/ rock fragments	0.50	Low	
49C: Oriskany, extremely stony-----	55	Moderate Texture/rock fragments	0.50	Low	
Murrill, extremely stony-----	35	Moderate Texture/surface depth/rock fragments	0.50	Low	
49E: Oriskany, extremely stony-----	55	Moderate Texture/rock fragments	0.50	Low	

# Soil Survey of Rockbridge County, Virginia

Table 9.--Forestland Management, Part V--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire	Potential for seedling mortality		
		Rating class and limiting features	Value	Rating class and limiting features	Value
49E: Murrill, extremely stony-----	35	Moderate Texture/surface depth/rock fragments	0.50	Low	
49F: Oriskany, extremely stony-----	65	Moderate Texture/slope/ rock fragments	0.50	Low	
Murrill, extremely stony-----	25	High Texture/slope/ surface depth/ rock fragments	1.00	Low	
50E: Peaks, very rocky---	55	Moderate Texture/rock fragments	0.50	Low	
Edneytown, very rocky-----	40	Low Texture/surface depth/rock fragments	0.10	Low	
50F: Peaks, very rocky---	55	Moderate Texture/slope/ rock fragments	0.50	Low	
Edneytown, very rocky-----	40	Moderate Texture/slope/ surface depth/ rock fragments	0.50	Low	
51A: Philo-----	75	Low Texture/rock fragments	0.10	Low	
52C: Pignut, very stony-----	50	Low Texture/rock fragments	0.10	Low	
Myersville, very stony-----	40	Moderate Texture/surface depth/rock fragments	0.50	Low	
53E: Pignut, very stony-----	90	Low Texture/rock fragments	0.10	Low	

# Soil Survey of Rockbridge County, Virginia

Table 9.--Forestland Management, Part V--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire	Value	Potential for seedling mortality	Value
		Rating class and limiting features		Rating class and limiting features	
53F: Pignut, very stony--	90	Low Texture/slope/ rock fragments	0.10	Low	
54: Pits-----	50	Not rated		Not rated	
Dumps-----	45	Not rated		Not rated	
55A: Pope-----	90	Low Texture/rock fragments	0.10	Low	
56G: Rock outcrop-----	60	Not rated		Not rated	
Opequon-----	25	High Texture/slope/ surface depth	1.00	Low	
57A: Sensabaugh-----	40	Low Texture/rock fragments	0.10	Low	
Lobdell-----	30	Low Texture/rock fragments	0.10	Low	
Derroc-----	20	Moderate Texture/surface depth/rock fragments	0.50	Low	
58B: Shottower-----	90	Moderate Texture/rock fragments	0.50	Low	
58C: Shottower-----	90	Moderate Texture/rock fragments	0.50	Low	
58D: Shottower-----	85	Moderate Texture/rock fragments	0.50	Low	
59E: Shottower-----	85	Moderate Texture/rock fragments	0.50	Low	
60C: Shottower-----	50	Moderate Texture/rock fragments	0.50	Low	
Urban land-----	45	Not rated		Not rated	



# Soil Survey of Rockbridge County, Virginia

Table 9.--Forestland Management, Part V--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire	Potential for seedling mortality		
		Rating class and limiting features	Value	Rating class and limiting features	Value
61B: Slabtown-----	80	Low Texture/rock fragments	0.10	Low	
61C: Slabtown-----	80	Low Texture/rock fragments	0.10	Low	
62: Slickens-----	100	Not rated		Not rated	
63E: Stumptown, extremely stony----	40	Moderate Texture/rock fragments	0.50	Moderate Soil reaction	0.50
Marbleyard, extremely stony----	35	High Texture/surface depth/rock fragments	1.00	Moderate Soil reaction	0.50
Rock outcrop-----	15	Not rated		Not rated	
63F: Stumptown, extremely stony----	40	Moderate Texture/slope/ rock fragments	0.50	Moderate Soil reaction	0.50
Marbleyard, extremely stony----	35	High Texture/slope/ surface depth/ rock fragments	1.00	Moderate Soil reaction	0.50
Rock outcrop-----	15	Not rated		Not rated	
63G: Stumptown, extremely stony----	40	Moderate Texture/slope/ rock fragments	0.50	Moderate Soil reaction	0.50
Marbleyard, extremely stony----	35	High Texture/slope/ surface depth/ rock fragments	1.00	Moderate Soil reaction	0.50
Rock outcrop-----	15	Not rated		Not rated	
64E: Stumptown, very stony-----	50	Moderate Texture/rock fragments	0.50	Moderate Soil reaction	0.50

# Soil Survey of Rockbridge County, Virginia

Table 9.--Forestland Management, Part V--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire	Potential for seedling mortality		
		Rating class and limiting features	Value	Rating class and limiting features	Value
64E: Sylco, very stony---	45	Moderate Texture/rock fragments	0.50	Low	
64F: Stumptown, very stony-----	50	Moderate Texture/slope/ rock fragments	0.50	Moderate Soil reaction	0.50
Sylco, very stony---	35	Moderate Texture/slope/ rock fragments	0.50	Low	
65E: Sylco, very rocky---	45	Moderate Texture/rock fragments	0.50	Low	
Marbleyard, very rocky-----	40	High Texture/surface depth/rock fragments	1.00	Moderate Soil reaction	0.50
65F: Sylco, very rocky---	50	Moderate Texture/slope/ rock fragments	0.50	Low	
Marbleyard, very rocky-----	45	High Texture/slope/ surface depth/ rock fragments	1.00	Moderate Soil reaction	0.50
65G: Sylco, very rocky---	50	Moderate Texture/slope/ rock fragments	0.50	Low	
Marbleyard, very rocky-----	35	High Texture/slope/ surface depth/ rock fragments	1.00	Moderate Soil reaction	0.50
66C: Thunder, very bouldery-----	50	Low Texture/rock fragments	0.10	Low	
Saunook, very bouldery-----	30	Low Texture/rock fragments	0.10	Low	

# Soil Survey of Rockbridge County, Virginia

Table 9.--Forestland Management, Part V--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire	Potential for seedling mortality		
		Rating class and limiting features	Value	Rating class and limiting features	Value
66E:					
Thunder, very bouldery-----	50	Low Texture/rock fragments	0.10	Low	
Saunook, very bouldery-----	30	Low Texture/rock fragments	0.10	Low	
66F:					
Thunder, very bouldery-----	50	Low Texture/rock fragments	0.10	Low	
Saunook, very bouldery-----	30	Low Texture/slope/ rock fragments	0.10	Low	
67C:					
Tumbling-----	50	Moderate Texture/rock fragments	0.50	Low	
Vanella-----	40	Moderate Texture/rock fragments	0.50	Low	
67D:					
Tumbling-----	50	Moderate Texture/rock fragments	0.50	Low	
Vanella-----	40	Moderate Texture/rock fragments	0.50	Low	
67E:					
Tumbling-----	50	Moderate Texture/slope/ rock fragments	0.50	Low	
Vanella-----	40	Moderate Texture/slope/ rock fragments	0.50	Low	
68D:					
Tumbling-----	35	Moderate Texture/rock fragments	0.50	Low	
Vanella-----	30	Moderate Texture/rock fragments	0.50	Low	
Urban land-----	25	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 9.--Forestland Management, Part V--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire	Potential for seedling mortality		
		Rating class and limiting features	Value	Rating class and limiting features	Value
69A:					
Tygart-----	55	Low Texture/rock fragments	0.10	High Wetness	1.00
Purdy-----	40	Low Texture/rock fragments	0.10	High Wetness	1.00
70:					
Udorthents, refuse substratum-----	85	Not rated		Not rated	
71:					
Udorthents-----	50	Not rated		Not rated	
Urban land-----	45	Not rated		Not rated	
72C:					
Unaka, very stony---	60	Low Texture/rock fragments	0.10	Low	
Plott, very stony---	30	Low Texture/rock fragments	0.10	Low	
72E:					
Unaka, very stony---	65	Low Texture/rock fragments	0.10	Low	
Plott, very stony---	30	Low Texture/rock fragments	0.10	Low	
73C:					
Vanella, very stony-----	50	Moderate Texture/surface depth/rock fragments	0.50	Low	
Tumbling, very stony-----	40	Moderate Texture/rock fragments	0.50	Low	
73E:					
Vanella, very stony-----	50	Moderate Texture/surface depth/rock fragments	0.50	Low	
Tumbling, very stony-----	40	Moderate Texture/rock fragments	0.50	Low	

# Soil Survey of Rockbridge County, Virginia

Table 9.-Forestland Management, Part V--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire	Potential for seedling mortality		
		Rating class and limiting features	Value	Rating class and limiting features	Value
74C: Watahala, very stony-----	60	Moderate Texture/surface depth/rock fragments	0.50	Low	
Frederick, very stony-----	30	Moderate Texture/surface depth/rock fragments	0.50	Moderate Soil reaction	0.50
74E: Watahala, very stony-----	50	Moderate Texture/surface depth/rock fragments	0.50	Low	
Frederick, very stony-----	35	Moderate Texture/surface depth/rock fragments	0.50	Moderate Soil reaction	0.50
74F: Watahala, very stony-----	60	High Texture/slope/ surface depth/ rock fragments	1.00	Low	
Frederick, very stony-----	20	High Texture/slope/ surface depth/ rock fragments	1.00	Moderate Soil reaction	0.50
75E: Weikert-----	45	Moderate Texture/surface depth/rock fragments	0.50	Low	
Berks-----	30	Moderate Texture/surface depth/rock fragments	0.50	Low	
Rough-----	20	High Texture/surface depth/rock fragments	1.00	Low	
75F: Weikert-----	45	High Texture/slope/ surface depth/ rock fragments	1.00	Low	

# Soil Survey of Rockbridge County, Virginia

Table 9.-Forestland Management, Part V--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire	Potential for seedling mortality		
		Rating class and limiting features	Value	Rating class and limiting features	Value
75F: Berks-----	30	High Texture/slope/ surface depth/ rock fragments	1.00	Low	
Rough-----	15	High Texture/slope/ surface depth/ rock fragments	1.00	Low	
76G: Weikert-----	35	High Texture/slope/ surface depth/ rock fragments	1.00	Low	
Rough-----	30	High Texture/slope/ surface depth/ rock fragments	1.00	Low	
Rock outcrop-----	25	Not rated		Not rated	
77C: Wintergreen-----	90	Moderate Texture/rock fragments	0.50	Low	
77D: Wintergreen-----	90	Moderate Texture/rock fragments	0.50	Low	
77E: Wintergreen-----	90	Moderate Texture/slope/ rock fragments	0.50	Low	
78E: Wintergreen, very stony-----	85	Moderate Texture/rock fragments	0.50	Low	
79A: Wolfgap-----	90	Low Texture/rock fragments	0.10	Low	
80A: Wolfgap-----	35	Low Texture/rock fragments	0.10	Low	
Derroc-----	30	Moderate Texture/surface depth/rock fragments	0.50	Low	
Urban land-----	25	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 9.-Forestland Management, Part V--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire	Value	Potential for seedling mortality	Value
		Rating class and limiting features		Rating class and limiting features	
W: Water-----	100	Not rated		Not rated	

Table 10.--Recreational Development, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1A: Alonzville, rarely flooded-----	80	Very limited Flooding	1.00	Not limited		Somewhat limited Gravel	0.44
2B: Alonzville-----	80	Not limited		Not limited		Somewhat limited Slope Gravel	0.88 0.44
3B: Alonzville-----	50	Not limited		Not limited		Somewhat limited Slope Gravel	0.88 0.44
Urban land-----	45	Not rated		Not rated		Not rated	
4C: Berks-----	50	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope Depth to bedrock Gravel	1.00 0.46 0.32
Weikert-----	40	Very limited Depth to bedrock Slope Gravel	1.00 0.37 0.01	Very limited Depth to bedrock Slope Gravel	1.00 0.37 0.01	Very limited Depth to bedrock Gravel Slope	1.00 1.00 1.00



Table 10.--Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
5A: Botetourt-----	90	Very limited Flooding Depth to saturated zone	1.00 0.39	Somewhat limited Depth to saturated zone	0.19	Somewhat limited Depth to saturated zone	0.39
6A: Botetourt-----	50	Very limited Flooding Depth to saturated zone	1.00 0.39	Somewhat limited Depth to saturated zone	0.19	Somewhat limited Depth to saturated zone	0.39
Urban land-----	45	Not rated		Not rated		Not rated	
7A: Buckton-----	55	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
Weaver-----	30	Very limited Flooding Depth to saturated zone	1.00 0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone Flooding	0.98 0.60
8F: Caneyville-----	60	Very limited Slope Slow water movement	1.00 0.26	Very limited Slope Slow water movement	1.00 0.26	Very limited Slope Depth to bedrock Slow water movement	1.00 0.84 0.26
Frederick-----	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8F: Rock outcrop-----	15	Not rated		Not rated		Not rated	
9C: Carbo, very rocky---	55	Somewhat limited Slow water movement Slope	0.96 0.04	Somewhat limited Slow water movement Slope	0.96 0.04	Very limited Slope Slow water movement Depth to bedrock	1.00 0.96 0.96 0.84
Opequon, very rocky-----	30	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope	1.00 1.00
9E: Carbo, very rocky---	50	Very limited Slope Slow water movement	1.00 0.96	Very limited Slope Slow water movement	1.00 0.96	Very limited Slope Slow water movement Depth to bedrock	1.00 0.96 0.96 0.84
Opequon, very rocky-----	35	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00
10F: Carbo-----	55	Very limited Slope Slow water movement	1.00 0.96	Very limited Slope Slow water movement	1.00 0.96	Very limited Slope Slow water movement Depth to bedrock	1.00 0.96 0.96 0.84

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
10F: Opequon-----	25	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
11B: Cottonbend-----	85	Not limited		Not limited		Somewhat limited Slope Gravel	0.88 0.22
11C: Cottonbend-----	85	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope Gravel	1.00 0.22
12A: Coursey, rarely flooded-----	80	Very limited Flooding Depth to saturated zone	1.00 0.39	Somewhat limited Depth to saturated zone	0.19	Somewhat limited Depth to saturated zone	0.39
13B: Coursey-----	80	Somewhat limited Depth to saturated zone	0.39	Somewhat limited Depth to saturated zone	0.19	Somewhat limited Slope Depth to saturated zone	0.50 0.39

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14C: Dekalb, very stony-----	50	Somewhat limited Large stones content Slope	0.76 0.04	Somewhat limited Large stones content Slope	0.76 0.04	Very limited Slope Large stones content Depth to bedrock Gravel	1.00 0.76 0.29 0.09
Lehew, very stony---	20	Somewhat limited Large stones content Slope	0.76 0.04	Somewhat limited Large stones content Slope	0.76 0.04	Very limited Slope Gravel Large stones content Depth to bedrock	1.00 0.99 0.76 0.03
Berks, very stony---	15	Somewhat limited Large stones content Slope	0.76 0.04	Somewhat limited Large stones content Slope	0.76 0.04	Very limited Slope Large stones content Depth to bedrock Gravel	1.00 0.76 0.46 0.32
14E: Dekalb, very stony-----	50	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content Depth to bedrock Gravel	1.00 0.76 0.29 0.09

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14E: Lehew, very stony----	20	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Gravel Large stones content Depth to bedrock	1.00 0.99 0.76 0.03
Berks, very stony----	15	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content Depth to bedrock Gravel	1.00 0.76 0.46 0.32
14F: Dekalb, very stony-----	50	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content Depth to bedrock Gravel	1.00 0.76 0.29 0.09
Lehew, very stony----	20	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Gravel Large stones content Depth to bedrock	1.00 0.99 0.76 0.03

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14F: Berks, very stony---	15	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones content	0.76	Large stones content	0.76	Large stones content	0.76
						Depth to bedrock	0.46
						Gravel	0.32
15E: Dekalb, extremely stony-----	50	Very limited Slope	1.00	Very limited Large stones content	1.00	Very limited Large stones content	1.00
		Large stones content	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.29
						Gravel	0.09
Lehew, extremely stony-----	30	Very limited Slope	1.00	Very limited Large stones content	1.00	Very limited Large stones content	1.00
		Large stones content	1.00	Slope	1.00	Slope	1.00
						Gravel	0.99
						Depth to bedrock	0.03
Rock outcrop-----	15	Not rated		Not rated		Not rated	

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15F: Dekalb, extremely stony-----							
	50	Very limited Slope					
		Large stones content	1.00	Very limited Large stones content Slope	1.00	Very limited Large stones content Slope Depth to bedrock Gravel	1.00 1.00 0.29 0.09
Lehew, extremely stony-----	20	Very limited Slope					
		Large stones content	1.00	Very limited Large stones content Slope	1.00	Very limited Large stones content Slope Gravel Depth to bedrock	1.00 1.00 0.99 0.03
Rock outcrop-----	15	Not rated		Not rated		Not rated	
16C: Dekalb, very stony-----	60	Somewhat limited Large stones content Slope	0.76 0.37	Somewhat limited Large stones content Slope	0.76 0.37	Very limited Slope Large stones content Depth to bedrock Gravel	1.00 0.76 0.29 0.09

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16C: Lily, very stony----	30	Somewhat limited Large stones content Slope	0.76 0.37	Somewhat limited Large stones content Slope	0.76 0.37	Very limited Slope Gravel Large stones content Depth to bedrock	1.00 1.00 0.76 0.29
16E: Dekalb, very stony-----	50	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content Depth to bedrock Gravel	1.00 0.76 0.29 0.09
Lily, very stony----	40	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Gravel Large stones content Depth to bedrock	1.00 1.00 0.76 0.29
17F: Dekalb, very stony-----	75	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content Depth to bedrock Gravel	1.00 1.00 0.76 0.29 0.09



Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17F: Lily, very stony-----	20	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Gravel Large stones content Depth to bedrock	1.00 1.00 0.76 0.29
18A: Derroc-----	85	Very limited Flooding Large stones content	1.00 0.10	Somewhat limited Large stones content Flooding	0.10 0.40	Very limited Flooding Gravel Large stones content	1.00 0.63 0.10
19C: Edneytown-----	90	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
19D: Edneytown-----	90	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
20C: Edneytown, very stony-----	60	Somewhat limited Large stones content Slope	0.53 0.37	Somewhat limited Large stones content Slope	0.53 0.37	Very limited Slope Large stones content	1.00 0.53

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20C: Peaks, very stony----	35	Somewhat limited Large stones content Slope Gravel	0.53 0.37 0.03	Somewhat limited Large stones content Slope Gravel	0.53 0.37 0.03	Very limited Gravel Slope Depth to bedrock Large stones content	1.00 1.00 0.95 0.53
20E: Edneytown, very stony-----	60	Very limited Slope Large stones content	1.00 0.53	Very limited Slope Large stones content	1.00 0.53	Very limited Slope Large stones content	1.00 0.53
Peaks, very stony----	35	Very limited Slope Large stones content Gravel	1.00 0.53 0.03	Very limited Slope Large stones content Gravel	1.00 0.53 0.03	Very limited Gravel Slope Depth to bedrock Large stones content	1.00 1.00 0.95 0.53
20F: Edneytown, very stony-----	60	Very limited Slope Large stones content	1.00 0.53	Very limited Slope Large stones content	1.00 0.53	Very limited Slope Large stones content	1.00 0.53

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20F: Peaks, very stony----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Gravel	1.00
		Large stones content	0.53	Large stones content	0.53	Slope	1.00
		Gravel	0.03	Gravel	0.03	Depth to bedrock	0.95
						Large stones content	0.53
21B: Escatawba-----	80	Somewhat limited Slow water movement	0.26	Somewhat limited Slow water movement	0.26	Somewhat limited Slope	0.88
						Slow water movement	0.26
21C: Escatawba-----	80	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
		Slow water movement	0.26	Slow water movement	0.26	Slow water movement	0.26
22B: Frederick-----	85	Not limited		Not limited		Somewhat limited Slope	0.88
22C: Frederick-----	80	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
22D: Frederick-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23E: Frederick-----	65	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Caneyville-----	30	Very limited Slope Slow water movement	1.00 0.26	Very limited Slope Slow water movement	1.00 0.26	Very limited Slope Depth to bedrock Slow water movement	1.00 0.84 0.26
24C: Frederick, very rocky-----	45	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Caneyville, very rocky-----	35	Somewhat limited Slope Slow water movement	0.04 0.26	Somewhat limited Slope Slow water movement	0.04 0.26	Very limited Slope Depth to bedrock Slow water movement	1.00 0.84 0.26
24E: Frederick, very rocky-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Caneyville, very rocky-----	38	Very limited Slope Slow water movement	1.00 0.26	Very limited Slope Slow water movement	1.00 0.26	Very limited Slope Depth to bedrock Slow water movement	1.00 0.84 0.26

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25C: Frederick-----	60	Somewhat limited Slope Gravel	0.37 0.01	Somewhat limited Slope Gravel	0.37 0.01	Very limited Slope Gravel	1.00 1.00
Watahala-----	30	Somewhat limited Gravel Slope	0.97 0.37	Somewhat limited Gravel Slope	0.97 0.37	Very limited Slope Gravel	1.00 1.00
25D: Frederick-----	45	Very limited Slope Gravel	1.00 0.01	Very limited Slope Gravel	1.00 0.01	Very limited Slope Gravel	1.00 1.00
Watahala-----	35	Very limited Slope Gravel	1.00 0.97	Very limited Slope Gravel	1.00 0.97	Very limited Slope Gravel	1.00 1.00
25E: Frederick-----	50	Very limited Slope Gravel	1.00 0.01	Very limited Slope Gravel	1.00 0.01	Very limited Slope Gravel	1.00 1.00
Watahala-----	40	Very limited Slope Gravel	1.00 0.97	Very limited Slope Gravel	1.00 0.97	Very limited Slope Gravel	1.00 1.00
26A: Gladehill-----	85	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
27B: Groseclose-----	80	Not limited		Not limited		Somewhat limited Slope	0.88
27C: Groseclose-----	80	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
27D: Groseclose-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
28E: Groseclose-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Needmore-----	40	Very limited Slope Slow water movement	1.00 0.26	Very limited Slope Slow water movement	1.00 0.26	Very limited Slope Slow water movement Depth to bedrock	1.00 0.26 0.20
29C: Groseclose-----	35	Not limited		Not limited		Very limited Slope	1.00
Needmore-----	30	Somewhat limited Slope Slow water movement	0.04 0.26	Somewhat limited Slope Slow water movement	0.04 0.26	Very limited Slope Slow water movement Depth to bedrock	1.00 0.26 0.20
Urban land-----	25	Not rated		Not rated		Not rated	

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
30A: Holly-----	50	Very limited Depth to saturated zone Flooding Ponding	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.60
Orrville-----	45	Very limited Depth to saturated zone Flooding Ponding	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.60
31A: Ingledove-----	85	Very limited Flooding	1.00	Not limited	Not limited	Not limited	
32A: Irongate-----	85	Very limited Flooding Depth to saturated zone	1.00 0.72	Somewhat limited Depth to saturated zone	0.39	Somewhat limited Depth to saturated zone Flooding	0.72 0.60
33C: Litz-----	35	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope Gravel Depth to bedrock	1.00 0.38 0.29
Chiswell-----	30	Very limited Depth to bedrock Slope	1.00 0.37	Very limited Depth to bedrock Slope	1.00 0.37	Very limited Slope Depth to bedrock Gravel	1.00 1.00 0.88

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33C: Groseclose-----	20	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
33E: Litz-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel Depth to bedrock	1.00 0.38 0.29
Chiswell-----	25	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Gravel	1.00 1.00 0.88
Groseclose-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
33F: Litz-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel Depth to bedrock	1.00 0.38 0.29
Chiswell-----	30	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Gravel	1.00 1.00 0.88
Groseclose-----	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00



Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34C: Litz, very stony----	55	Somewhat limited Large stones content Slope	0.76 0.04	Somewhat limited Large stones content Slope	0.76 0.04	Very limited Slope Large stones content Gravel Depth to bedrock	1.00 0.76 0.38 0.29
Needmore, very stony-----	35	Somewhat limited Large stones content Slope Slow water movement	0.76 0.04 0.26	Somewhat limited Large stones content Slope Slow water movement	0.76 0.04 0.26	Very limited Slope Large stones content Slow water movement Depth to bedrock	1.00 0.76 0.26 0.29
34E: Litz, very stony----	55	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content Gravel Depth to bedrock	1.00 0.76 0.38 0.29
Needmore, very stony-----	35	Very limited Slope Large stones content Slow water movement	1.00 0.76 0.26	Very limited Slope Large stones content Slow water movement	1.00 0.76 0.26	Very limited Slope Large stones content Slow water movement Depth to bedrock	1.00 0.76 0.26 0.20

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34F: Litz, very stony-----	55	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content Gravel Depth to bedrock	1.00 0.76 0.38 0.29
Needmore, very stony-----	35	Very limited Slope Large stones content Slow water movement	1.00 0.76 0.26	Very limited Slope Large stones content Slow water movement	1.00 0.76 0.26	Very limited Slope Large stones content Slow water movement Depth to bedrock	1.00 0.76 0.26 0.20
35C: Lodi-----	40	Somewhat limited Slope Too sandy	0.37 0.12	Somewhat limited Slope Too sandy	0.37 0.12	Very limited Slope Gravel Too sandy	1.00 0.96 0.12
McClung-----	35	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
Lily-----	20	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope Gravel Depth to bedrock	1.00 1.00 0.29

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
35E: Lodi-----	35	Very limited Slope Too sandy	1.00 0.12	Very limited Slope Too sandy	1.00 0.12	Very limited Slope Gravel Too sandy	1.00 0.96 0.12
McClung-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Lily-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel Depth to bedrock	1.00 1.00 0.29
36C: Lostcove, extremely stony-----	80	Very limited Large stones content Slope Gravel	1.00 0.37 0.01	Very limited Large stones content Slope Gravel	1.00 0.37 0.01	Very limited Large stones content Slope Gravel	1.00 1.00 1.00
37E: Lostcove, very stony-----	80	Very limited Slope Large stones content Gravel	1.00 0.76 0.01	Very limited Slope Large stones content Gravel	1.00 0.76 0.01	Very limited Slope Gravel Large stones content	1.00 1.00 0.76

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
37F: Lostcove, very stony-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones content	0.76	Large stones content	0.76	Gravel	1.00
		Gravel	0.01	Gravel	0.01	Large stones content	0.76
38E: Marbleyard, extremely stony----	70	Very limited Slope	1.00	Very limited Large stones content	1.00	Very limited Large stones content	1.00
		Large stones content	1.00	Slope	1.00	Slope	1.00
						Gravel	0.86
						Depth to bedrock	0.06
Rock outcrop-----	15	Not rated		Not rated		Not rated	
39F: Marbleyard, extremely stony----	45	Very limited Slope	1.00	Very limited Large stones content	1.00	Very limited Large stones content	1.00
		Large stones content	1.00	Slope	1.00	Slope	1.00
						Gravel	0.86
						Depth to bedrock	0.06

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
39F: Sherando, extremely stony-----	30	Very limited Slope Large stones content Gravel	1.00 1.00 0.88	Very limited Large stones content Slope Gravel	1.00 1.00 0.88	Very limited Large stones content Slope Gravel	1.00 1.00 1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
39G: Marbleyard, extremely stony----	45	Very limited Slope Large stones content	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope Gravel Depth to bedrock	1.00 1.00 0.86 0.06
Sherando, extremely stony-----	30	Very limited Slope Large stones content Gravel	1.00 1.00 0.88	Very limited Large stones content Slope Gravel	1.00 1.00 0.88	Very limited Large stones content Slope Gravel	1.00 1.00 1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
40A: Maurertown-----	50	Very limited Depth to saturated zone	1.00	Very limited Ponding Depth to saturated zone	1.00	Very limited Slow water movement	1.00
		Flooding	1.00			Depth to	1.00
		Ponding	1.00			saturated zone	
		Slow water movement	1.00			Ponding	1.00
Toms-----	45	Very limited Depth to saturated zone	1.00	Very limited Ponding Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Flooding	1.00			Ponding	1.00
		Ponding	1.00			Slow water movement	0.96
		Slow water movement	0.96				
41C: McCamy, very stony-----	85	Somewhat limited Large stones content Slope	0.47	Somewhat limited Large stones content Slope	0.47	Very limited Slope Gravel Large stones content Depth to bedrock	1.00 0.56 0.47 0.35
42F: McClung, very stony-----	40	Very limited Slope Large stones content	1.00 0.19	Very limited Slope Large stones content	1.00 0.19	Very limited Slope Large stones content	1.00 0.19

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
42F: Caneyville, very stony-----	30	Very limited					
		Slope	1.00	Very limited	1.00	Very limited	1.00
		Large stones	0.19	Slope	0.19	Slope	0.84
		content		Large stones		Depth to bedrock	0.26
		Slow water	0.26	content		Slow water	
Dekalb, very stony-----	25	Slow water		Slow water	0.26	movement	0.19
		movement		movement		Large stones	
						content	
43C: Needmore-----	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.76	Large stones	0.76	Large stones	0.76
		content		content		content	
						Depth to bedrock	0.29
43C: Needmore-----	60					Gravel	0.09
Opequon-----	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
		Slow water	0.26	Slow water	0.26	Slow water	0.26
		movement		movement		movement	
						Depth to bedrock	0.20
Opequon-----	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.04	Slope	0.04	Slope	1.00

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
43E: Needmore-----	55	Very limited Slope Slow water movement	1.00 0.26	Very limited Slope Slow water movement	1.00 0.26	Very limited Slope Slow water movement Depth to bedrock	1.00 0.26 0.20
Opequon-----	35	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00
43F: Needmore-----	50	Very limited Slope Slow water movement	1.00 0.26	Very limited Slope Slow water movement	1.00 0.26	Very limited Slope Slow water movement Depth to bedrock	1.00 0.26 0.20
Opequon-----	40	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00
44E: Needmore-----	70	Very limited Slope Slow water movement	1.00 0.26	Very limited Slope Slow water movement	1.00 0.26	Very limited Slope Slow water movement Depth to bedrock	1.00 0.26 0.20
Urban land-----	25	Not rated		Not rated		Not rated	



Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
45B: Nicelytown-----	80	Somewhat limited Depth to saturated zone Slow water movement	0.98 0.35	Somewhat limited Slow water movement Depth to saturated zone	0.35 0.75	Somewhat limited Depth to saturated zone Slope Slow water movement	0.98 0.88 0.35
46B: Nicelytown-----	50	Somewhat limited Depth to saturated zone Slow water movement	0.98 0.35	Somewhat limited Depth to saturated zone Slow water movement	0.75 0.35	Somewhat limited Depth to saturated zone Slope Slow water movement	0.98 0.88 0.35
Urban land-----	45	Not rated		Not rated		Not rated	
47C: Oriskany, extremely stony-----	65	Very limited Large stones content Slope	1.00 0.37	Very limited Large stones content Slope	1.00 0.37	Very limited Large stones content Slope Gravel	1.00 1.00 0.17

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47C: Laidig, extremely stony-----	25	Very limited Large stones content Slope Depth to cemented pan	1.00 0.37 0.29	Very limited Large stones content Slope Depth to cemented pan	1.00 0.37 0.29	Very limited Large stones content Slope Depth to cemented pan Gravel	1.00 1.00 0.29 0.02
47E: Oriskany, extremely stony-----	60	Very limited Slope Large stones content	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope Gravel	1.00 1.00 0.17
Laidig, extremely stony-----	30	Very limited Slope Large stones content Depth to cemented pan	1.00 1.00 0.29	Very limited Large stones content Slope Depth to cemented pan	1.00 1.00 0.29	Very limited Large stones content Slope Gravel Depth to cemented pan	1.00 1.00 0.02 0.29

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
48F: Oriskany, extremely stony-----	80	Very limited Slope Large stones content	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope Gravel	1.00 1.00 0.17
49C: Oriskany, extremely stony-----	55	Very limited Large stones content Slope	1.00 0.37	Very limited Large stones content Slope	1.00 0.37	Very limited Large stones content Slope Gravel	1.00 1.00 0.17
Murrill, extremely stony-----	35	Very limited Large stones content Slope	1.00 0.37	Very limited Large stones content Slope	1.00 0.37	Very limited Large stones content Slope	1.00 1.00
49E: Oriskany, extremely stony-----	55	Very limited Slope Large stones content	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope Gravel	1.00 1.00 0.17

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
49E: Murrill, extremely stony-----	35	Very limited Slope Large stones content	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope	1.00 1.00
49F: Oriskany, extremely stony-----	65	Very limited Slope Large stones content	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope Gravel	1.00 1.00 0.17
Murrill, extremely stony-----	25	Very limited Slope Large stones content	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope	1.00 1.00
50E: Peaks, very rocky---	55	Very limited Slope Large stones content Gravel	1.00 0.53 0.03	Very limited Slope Large stones content Gravel	1.00 0.53 0.03	Very limited Gravel Slope Depth to bedrock Large stones content	1.00 1.00 0.95 0.53

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
50E: Edneytown, very rocky-----	40	Very limited Slope Large stones content	1.00 0.53	Very limited Slope Large stones content	1.00 0.53	Very limited Slope Large stones content	1.00 0.53
50F: Peaks, very rocky---	55	Very limited Slope Large stones content Gravel	1.00 0.53 0.03	Very limited Slope Large stones content Gravel	1.00 0.53 0.03	Very limited Gravel Slope Depth to bedrock Large stones content	1.00 1.00 0.95 0.53
Edneytown, very rocky-----	40	Very limited Slope Large stones content	1.00 0.53	Very limited Slope Large stones content	1.00 0.53	Very limited Slope Large stones content	1.00 0.53
51A: Philo-----	75	Very limited Flooding Depth to saturated zone	1.00 0.56	Somewhat limited Depth to saturated zone	0.28	Somewhat limited Flooding Depth to saturated zone	0.60 0.56

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
52C: Pignut, very stony-----	50	Somewhat limited Large stones content Slope	0.76 0.04	Somewhat limited Large stones content Slope	0.76 0.04	Very limited Slope Large stones content Gravel Depth to bedrock	1.00 0.76 0.56 0.03
Myersville, very stony-----	40	Somewhat limited Large stones content Slope	0.76 0.04	Somewhat limited Large stones content Slope	0.76 0.04	Very limited Slope Large stones content	1.00 0.76
53E: Pignut, very stony-----	90	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content Gravel Depth to bedrock	1.00 0.76 0.56 0.03
53F: Pignut, very stony-----	90	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content Gravel Depth to bedrock	1.00 0.76 0.56 0.03

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
54: Pits-----	50	Not rated		Not rated		Not rated	
Dumps-----	45	Not rated		Not rated		Not rated	
55A: Pope-----	90	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
56G: Rock outcrop-----	60	Not rated		Not rated		Not rated	
Opequon-----	25	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00
57A: Sensabaugh-----	40	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
Lobdell-----	30	Very limited Flooding Depth to saturated zone	1.00 0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone Flooding	0.98 0.60
Derroc-----	20	Very limited Flooding Large stones content	1.00 0.10	Somewhat limited Large stones content	0.10	Somewhat limited Gravel Flooding Large stones content	0.63 0.60 0.10

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
58B: Shottower-----	90	Not limited		Not limited		Somewhat limited Slope Gravel	0.88 0.22
58C: Shottower-----	90	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope Gravel	1.00 0.22
58D: Shottower-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel	1.00 0.22
59E: Shottower-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel	1.00 0.18
60C: Shottower-----	50	Not limited		Not limited		Somewhat limited Slope Gravel	0.88 0.22
Urban land-----	45	Not rated		Not rated		Not rated	



Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
61B: Slabtown-----	80	Somewhat limited Slow water movement Depth to saturated zone	0.26 0.07	Somewhat limited Slow water movement Depth to saturated zone	0.26 0.03	Somewhat limited Slope Gravel Slow water movement Depth to saturated zone	0.88 0.56 0.26 0.07
61C: Slabtown-----	80	Somewhat limited Slope Slow water movement Depth to saturated zone	0.37 0.26 0.07	Somewhat limited Slope Slow water movement Depth to saturated zone	0.37 0.26 0.03	Very limited Slope Gravel Slow water movement Depth to saturated zone	1.00 0.56 0.26 0.07
62: Slickens-----	100	Not rated		Not rated		Not rated	
63E: Stumptown, extremely stony----	40	Very limited Slope Large stones content Gravel	1.00 1.00 0.95	Very limited Large stones content Slope Gravel	1.00 1.00 0.95	Very limited Large stones content Gravel Slope Depth to bedrock	1.00 1.00 1.00 0.20

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
63E: Marbleyard, extremely stony----	35	Very limited Slope Large stones content	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope Gravel Depth to bedrock	1.00 1.00 0.86 0.06
Rock outcrop-----	15	Not rated		Not rated		Not rated	
63F: Stumptown, extremely stony----	40	Very limited Slope Large stones content Gravel	1.00 1.00 0.95	Very limited Large stones content Slope Gravel	1.00 1.00 0.95	Very limited Large stones content Gravel Slope Depth to bedrock	1.00 1.00 1.00 0.20
Marbleyard, extremely stony----	35	Very limited Slope Large stones content	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope Gravel Depth to bedrock	1.00 1.00 0.86 0.06
Rock outcrop-----	15	Not rated		Not rated		Not rated	

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
63G: Stumptown, extremely stony----	40	Very limited Slope Large stones content Gravel	1.00 1.00 0.95	Very limited Large stones content Slope Gravel	1.00 1.00 0.95	Very limited Large stones content Gravel Slope Depth to bedrock	1.00 1.00 1.00 0.20
Marbleyard, extremely stony----	35	Very limited Slope Large stones content	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope Gravel Depth to bedrock	1.00 1.00 0.86 0.06
Rock outcrop-----	15	Not rated		Not rated		Not rated	
64E: Stumptown, very stony-----	50	Very limited Slope Gravel Large stones content	1.00 0.95 0.19	Very limited Slope Gravel Large stones content	1.00 0.95 0.19	Very limited Gravel Slope Depth to bedrock Large stones content	1.00 1.00 0.20 0.19

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
64E: Sylco, very stony---	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones	0.76	Large stones	0.76	Large stones	0.76
		content		content		content	
						Gravel	0.73
						Depth to bedrock	0.54
64F: Stumptown, very stony-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Gravel	1.00
		Gravel	0.95	Gravel	0.95	Slope	1.00
		Large stones	0.19	Large stones	0.19	Depth to bedrock	0.20
		content		content		Large stones	0.19
						content	
Sylco, very stony---	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones	0.76	Large stones	0.76	Large stones	0.76
		content		content		content	
						Gravel	0.73
						Depth to bedrock	0.54
65E: Sylco, very rocky---	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
						Gravel	0.73
						Depth to bedrock	0.54

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65E: Marbleyard, very rocky-----	40	Very limited Slope Large stones content	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope Gravel Depth to bedrock	1.00 1.00 0.86 0.06
65F: Sylco, very rocky---	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel Depth to bedrock	1.00 0.73 0.54
Marbleyard, very rocky-----	45	Very limited Slope Large stones content	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope Gravel Depth to bedrock	1.00 1.00 0.86 0.06
65G: Sylco, very rocky---	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel Depth to bedrock	1.00 0.73 0.54

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65G: Marbleyard, very rocky-----	35	Very limited Slope Large stones content	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope Gravel Depth to bedrock	1.00 1.00 0.86 0.06
66C: Thunder, very bouldery-----	50	Somewhat limited Slope Large stones content	0.37 0.19	Somewhat limited Slope Large stones content	0.37 0.19	Very limited Slope Gravel Large stones content	1.00 0.70 0.19
Saunook, very bouldery-----	30	Somewhat limited Gravel Slope Large stones content	0.40 0.37 0.19	Somewhat limited Gravel Slope Large stones content	0.40 0.37 0.19	Very limited Gravel Slope Large stones content	1.00 1.00 0.19
66E: Thunder, very bouldery-----	50	Very limited Slope Large stones content	1.00 0.19	Very limited Slope Large stones content	1.00 0.19	Very limited Slope Gravel Large stones content	1.00 0.70 0.19

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
66E: Saunook, very bouldery-----	30	Very limited Slope Gravel Large stones content	1.00 0.40 0.19	Very limited Slope Gravel Large stones content	1.00 0.40 0.19	Very limited Slope Gravel Large stones content	1.00 1.00 0.19
66F: Thunder, very bouldery-----	50	Very limited Slope Large stones content	1.00 0.19	Very limited Slope Large stones content	1.00 0.19	Very limited Slope Gravel Large stones content	1.00 0.70 0.19
Saunook, very bouldery-----	30	Very limited Slope Gravel Large stones content	1.00 0.40 0.19	Very limited Slope Gravel Large stones content	1.00 0.40 0.19	Very limited Slope Gravel Large stones content	1.00 1.00 0.19
67C: Tumbling-----	50	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope Gravel	1.00 0.32
Vanella-----	40	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
67D: Tumbling-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel	1.00 0.32
Vanella-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
67E: Tumbling-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel	1.00 0.32
Vanella-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
68D: Tumbling-----	35	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope Gravel	1.00 0.32
Vanella-----	30	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
Urban land-----	25	Not rated		Not rated		Not rated	
69A: Tygart-----	55	Very limited Depth to saturated zone Ponding Slow water movement	1.00	Very limited Ponding Depth to saturated zone Slow water movement	1.00 1.00 0.96	Very limited Depth to saturated zone Ponding Slow water movement	1.00 1.00 0.96



Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
69A: Purdy-----	40	Very limited Depth to saturated zone	1.00	Very limited Ponding Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Ponding	1.00		1.00	Ponding	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
70: Udorthents, refuse substratum-----	85	Not rated		Not rated		Not rated	
71: Udorthents-----	50	Not rated		Not rated		Not rated	
Urban land-----	45	Not rated		Not rated		Not rated	
72C: Unaka, very stony---	60	Somewhat limited Large stones content	0.76	Somewhat limited Large stones content	0.76	Very limited Gravel	1.00
		Slope	0.16	Slope	0.16	Slope	1.00
		Gravel	0.11	Gravel	0.11	Large stones content	0.76
						Depth to bedrock	0.71
Plott, very stony---	30	Somewhat limited Large stones content	0.76	Somewhat limited Large stones content	0.76	Very limited Gravel	1.00
		Slope	0.16	Slope	0.16	Slope	1.00
						Large stones content	0.76

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
72E:							
Unaka, very stony----	65	Very limited Slope		Very limited Slope		Very limited Slope	
		Large stones content	1.00	Large stones content	1.00	Gravel	1.00
		Gravel	0.76	Gravel	0.76	Large stones	0.76
			0.11		0.11	content Depth to bedrock	0.71
Plott, very stony----							
Vanella, very stony-----	30	Very limited Slope		Very limited Slope		Very limited Slope	
		Large stones content	1.00	Large stones content	1.00	Gravel	1.00
			0.76		0.76	Large stones content	0.76
73C:							
Tumbling, very stony-----	40	Somewhat limited Large stones content Slope		Somewhat limited Large stones content Slope		Very limited Slope	
			0.53		0.53	Large stones content	1.00
			0.04		0.04	content content	0.53
Tumbling, very stony-----							
Vanella, very stony-----	50	Somewhat limited Large stones content Slope		Somewhat limited Large stones content Slope		Very limited Slope	
			0.53		0.53	Large stones content	1.00
			0.04		0.04	content Gravel	0.53
							0.03

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73E: Vanella, very stony-----	50	Very limited Slope Large stones content	1.00 0.53	Very limited Slope Large stones content	1.00 0.53	Very limited Slope Large stones content	1.00 0.53
Tumbling, very stony-----	40	Very limited Slope Large stones content	1.00 0.53	Very limited Slope Large stones content	1.00 0.53	Very limited Slope Large stones content Gravel	1.00 0.53 0.03
74C: Watahala, very stony-----	60	Somewhat limited Slope Large stones content Gravel	0.37 0.19 0.08	Somewhat limited Slope Large stones content Gravel	0.37 0.19 0.08	Very limited Slope Gravel Large stones content	1.00 1.00 0.19
Frederick, very stony-----	30	Somewhat limited Slope Large stones content	0.37 0.19	Somewhat limited Slope Large stones content	0.37 0.19	Very limited Slope Gravel Large stones content	1.00 0.97 0.19

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74E: Watahala, very stony-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones content	0.19	Large stones content	0.19	Gravel	1.00
		Gravel	0.08	Gravel	0.08	Large stones content	0.19
Frederick, very stony-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones content	0.19	Large stones content	0.19	Gravel	0.97
						Large stones content	0.19
74F: Watahala, very stony-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones content	0.19	Large stones content	0.19	Gravel	1.00
		Gravel	0.08	Gravel	0.08	Large stones content	0.19
Frederick, very stony-----	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones content	0.19	Large stones content	0.19	Gravel	0.97
						Large stones content	0.19

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75E: Weikert-----	45	Very limited Slope Depth to bedrock Gravel	1.00 1.00 0.01	Very limited Slope Depth to bedrock Gravel	1.00 1.00 0.01	Very limited Slope Depth to bedrock Gravel	1.00 1.00 1.00
Berks-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Depth to bedrock Gravel	1.00 0.46 0.32
Rough-----	20	Very limited Slope Depth to bedrock Gravel	1.00 1.00 0.54	Very limited Slope Depth to bedrock Gravel	1.00 1.00 0.54	Very limited Gravel Slope Depth to bedrock	1.00 1.00 1.00
75F: Weikert-----	45	Very limited Slope Depth to bedrock Gravel	1.00 1.00 0.01	Very limited Slope Depth to bedrock Gravel	1.00 1.00 0.01	Very limited Slope Depth to bedrock Gravel	1.00 1.00 1.00
Berks-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Depth to bedrock Gravel	1.00 0.46 0.32
Rough-----	15	Very limited Slope Depth to bedrock Gravel	1.00 1.00 0.54	Very limited Slope Depth to bedrock Gravel	1.00 1.00 0.54	Very limited Gravel Slope Depth to bedrock	1.00 1.00 1.00

Table 10.-Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
76G: Weikert-----	35	Very limited Slope Depth to bedrock Gravel	1.00 1.00 0.01	Very limited Slope Depth to bedrock Gravel	1.00 1.00 0.01	Very limited Slope Depth to bedrock Gravel	1.00 1.00 1.00
Rough-----	30	Very limited Slope Depth to bedrock Gravel	1.00 1.00 0.54	Very limited Slope Depth to bedrock Gravel	1.00 1.00 0.54	Very limited Gravel Slope Depth to bedrock	1.00 1.00 1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	
77C: Wintergreen-----	90	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
77D: Wintergreen-----	90	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
77E: Wintergreen-----	90	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
78E: Wintergreen, very stony-----	85	Very limited Slope Large stones content	1.00 0.47	Very limited Slope Large stones content	1.00 0.47	Very limited Slope Large stones content	1.00 0.47

Table 10.--Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
79A: Wolfgap-----	90	Very limited Flooding	1.00	Not limited		Not limited	
80A: Wolfgap-----	35	Very limited Flooding	1.00	Not limited		Not limited	
Derroc-----	30	Very limited Flooding	1.00	Somewhat limited Large stones content	0.10	Somewhat limited Gravel Large stones content	0.63 0.10
Urban land-----	25	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Table 10.-Recreational Development, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1A: Alonzville, rarely flooded-----	80	Not limited					
2B: Alonzville	80	Not limited		Not limited		Not limited	
3B: Alonzville-----	50	Not limited		Not limited		Not limited	
Urban land-----	45	Not rated		Not rated		Not rated	
4C: Berks-----	50	Not limited		Not limited		Somewhat limited Depth to bedrock Slope Large stones	0.46 0.37 0.38
Weikert-----	40	Not limited		Not limited		Very limited Depth to bedrock Droughty Slope Gravel Large stones	1.00 1.00 0.37 0.01 0.20



Table 10.-Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
5A: Botetourt-----	90	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.19
6A: Botetourt-----	50	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.19
Urban land-----	45	Not rated		Not rated		Not rated	
7A: Buckton-----	55	Not limited		Not limited		Somewhat limited Flooding	0.60
Weaver-----	30	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone Flooding	0.75 0.60
8F: Caneyville-----	60	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope Depth to bedrock Droughty	1.00 0.84 0.12
8F: Frederick-----	20	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9C: Carbo, very rocky---	55	Not limited					
				Not limited		Somewhat limited Depth to bedrock Slope Droughty	0.84 0.04 0.60
Opequon, very rocky-----	30	Not limited					
				Not limited		Very limited Depth to bedrock Droughty Slope	1.00 1.00 0.04
9E: Carbo, very rocky---	50	Very limited Slope	1.00	Not limited		Very limited Slope Depth to bedrock Droughty	1.00 0.84 0.60
Opequon, very rocky-----	35	Very limited Slope	1.00	Not limited		Very limited Depth to bedrock Slope Droughty	1.00 1.00 1.00
10F: Carbo-----	55	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Depth to bedrock Droughty	1.00 0.84 0.60

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
10F: Opequon-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope Droughty	1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
11B: Cottonbend-----	85	Not limited		Not limited		Not limited	
11C: Cottonbend-----	85	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.37
12A: Coursey, rarely flooded-----	80	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.19
13B: Coursey-----	80	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.19
14C: Dekalb, very stony-----	50	Somewhat limited Large stones content	0.76	Somewhat limited Large stones content	0.76	Somewhat limited Droughty Depth to bedrock Large stones Slope	0.60 0.29 0.16 0.04

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14C: Lehew, very stony----	20	Somewhat limited Large stones content	0.76	Somewhat limited Large stones content	0.76	Very limited Large stones Droughty Slope Depth to bedrock	1.00 0.22 0.04 0.03
Berks, very stony----	15	Somewhat limited Large stones content	0.76	Somewhat limited Large stones content	0.76	Somewhat limited Depth to bedrock Slope Large stones	0.46 0.04 0.38
14E: Dekalb, very stony-----	50	Very limited Slope Large stones content	1.00 0.76	Somewhat limited Large stones content	0.76	Very limited Slope Droughty Depth to bedrock Large stones	1.00 0.60 0.29 0.16
Lehew, very stony----	20	Very limited Slope Large stones content	1.00 0.76	Somewhat limited Large stones content	0.76	Very limited Slope Large stones Droughty Depth to bedrock	1.00 1.00 0.22 0.03
Berks, very stony----	15	Very limited Slope Large stones content	1.00 0.76	Somewhat limited Large stones content	0.76	Very limited Slope Depth to bedrock Large stones	1.00 0.46 0.38

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14F: Dekalb, very stony-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones content	0.76	Large stones content	0.76	Droughty Depth to bedrock	0.60
						Large stones	0.29
							0.16
Lehew, very stony---	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones content	0.76	Large stones content	0.76	Large stones	1.00
						Droughty	0.22
						Depth to bedrock	0.03
Berks, very stony---	15	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones content	0.76	Large stones content	0.76	Depth to bedrock	0.46
						Large stones	0.38
15E: Dekalb, extremely stony-----	50	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Very limited Slope	1.00
		Slope	1.00			Droughty	0.60
						Depth to bedrock	0.29
						Large stones	0.16

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15E: Lehew, extremely stony-----	30	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content	1.00	Very limited Slope Large stones Droughty Depth to bedrock	1.00 1.00 0.22 0.03
Rock outcrop-----	15	Not rated		Not rated		Not rated	
15F: Dekalb, extremely stony-----	50	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Slope Droughty Depth to bedrock Large stones	1.00 0.60 0.29 0.16
Lehew, extremely stony-----	20	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Slope Large stones Droughty Depth to bedrock	1.00 1.00 0.22 0.03
Rock outcrop-----	15	Not rated		Not rated		Not rated	

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16C: Dekalb, very stony-----	60	Somewhat limited Large stones content	0.76	Somewhat limited Large stones content	0.76	Somewhat limited Droughty Slope Depth to bedrock Large stones	0.60 0.37 0.29 0.16
Lily, very stony----	30	Somewhat limited Large stones content	0.76	Somewhat limited Large stones content	0.76	Somewhat limited Slope Depth to bedrock	0.37 0.29
16E: Dekalb, very stony-----	50	Very limited Slope Large stones content	1.00 0.76	Somewhat limited Large stones content	0.76	Very limited Slope Droughty Depth to bedrock Large stones	1.00 0.60 0.29 0.16
Lily, very stony----	40	Very limited Slope Large stones content	1.00 0.76	Somewhat limited Large stones content	0.76	Very limited Slope Depth to bedrock	1.00 0.29
17F: Dekalb, very stony-----	75	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Droughty Depth to bedrock Large stones	1.00 0.60 0.29 0.16

Table 10.-Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17F: Lily, very stony----	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones content	0.76	Large stones content	0.76	Depth to bedrock	0.29
18A: Derroc-----	85	Somewhat limited Large stones content	0.10	Somewhat limited Large stones content	0.10	Very limited Flooding	1.00
		Flooding	0.40	Flooding	0.40	Large stones	1.00
						Droughty	0.05
19C: Edneytown-----	90	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.37
19D: Edneytown-----	90	Very limited Water erosion Slope	1.00 0.50	Very limited Water erosion	1.00	Very limited Slope	1.00
20C: Edneytown, very stony-----	60	Very limited Water erosion Large stones content	1.00 0.53	Very limited Water erosion Large stones content	1.00 0.53	Somewhat limited Slope	0.37
Peaks, very stony----	35	Somewhat limited Large stones content	0.53	Somewhat limited Large stones content	0.53	Very limited Droughty	1.00
						Depth to bedrock	0.95
						Slope	0.37
						Gravel	0.03



Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20E: Edneytown, very stony-----	60	Very limited Water erosion Slope Large stones content	1.00 1.00 0.53	Very limited Water erosion Large stones content	1.00 0.53	Very limited Slope	1.00
Peaks, very stony---	35	Very limited Slope Large stones content	1.00 0.53	Somewhat limited Large stones content	0.53	Very limited Slope Droughty Depth to bedrock Gravel	1.00 1.00 0.95 0.03
20F: Edneytown, very stony-----	60	Very limited Slope Water erosion Large stones content	1.00 1.00 0.53	Very limited Water erosion Slope Large stones content	1.00 1.00 0.53	Very limited Slope	1.00
Peaks, very stony---	35	Very limited Slope Large stones content	1.00 0.53	Very limited Slope Large stones content	1.00 0.53	Very limited Slope Droughty Depth to bedrock Gravel	1.00 1.00 0.95 0.03
21B: Escatawba-----	80	Not limited		Not limited		Not limited	

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
21C: Escatawba-----	80	Not limited					
				Not limited		Somewhat limited Slope	0.37
22B: Frederick-----	85	Not limited					
				Not limited		Not limited	
22C: Frederick-----	80	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.37
22D: Frederick-----	80	Very limited Water erosion Slope	1.00 0.50	Very limited Water erosion	1.00	Very limited Slope	1.00
23E: Frederick-----	65	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 0.22	Very limited Slope	1.00
Caneyville-----	30	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 0.22	Very limited Slope Depth to bedrock Droughty	1.00 0.84 0.12
24C: Frederick, very rocky-----	45	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.04

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
24C: Caneyville, very rocky-----	35	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Depth to bedrock Slope Droughty	0.84 0.04 0.12
24E: Frederick, very rocky-----	40	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion	1.00	Very limited Slope	1.00
Caneyville, very rocky-----	38	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion	1.00	Very limited Slope Depth to bedrock Droughty	1.00 0.84 0.12
25C: Frederick-----	60	Not limited		Not limited		Somewhat limited Slope Gravel	0.37 0.01
Watahala-----	30	Not limited		Not limited		Somewhat limited Gravel Slope Droughty	0.97 0.37 0.05
25D: Frederick-----	45	Somewhat limited Slope	0.50	Not limited		Very limited Slope Gravel	1.00 0.01

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25D: Watahala-----	35	Somewhat limited Slope	0.50	Not limited		Very limited Slope	1.00
						Gravel	0.97
						Droughty	0.05
25E: Frederick-----	50	Very limited Slope	1.00	Somewhat limited Slope	0.22	Very limited Slope	1.00
						Gravel	0.01
Watahala-----	40	Very limited Slope	1.00	Somewhat limited Slope	0.22	Very limited Slope	1.00
						Gravel	0.97
						Droughty	0.05
26A: Gladehill-----	85	Not limited		Not limited		Somewhat limited Flooding	0.60
27B: Groseclose-----	80	Not limited		Not limited		Not limited	
27C: Groseclose-----	80	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.37
27D: Groseclose-----	80	Very limited Water erosion Slope	1.00 0.50	Very limited Water erosion	1.00	Very limited Slope	1.00

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
28E: Groseclose-----	50	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 0.22	Very limited Slope	1.00
Needmore-----	40	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 0.22	Very limited Slope Depth to bedrock	1.00 0.20
29C: Groseclose-----	35	Not limited		Not limited		Not limited	
Needmore-----	30	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Depth to bedrock Slope	0.20 0.04
Urban land-----	25	Not rated		Not rated		Not rated	
30A: Holly-----	50	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone Flooding	1.00 1.00 0.60
Orrville-----	45	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone Flooding	1.00 1.00 0.60

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31A: Ingledove-----	85	Not limited		Not limited		Somewhat limited Large stones	0.03
32A: Irongate-----	85	Somewhat limited Depth to saturated zone	0.06	Somewhat limited Depth to saturated zone	0.06	Somewhat limited Flooding Depth to saturated zone	0.60 0.39
33C: Litz-----	35	Not limited		Not limited		Somewhat limited Slope Droughty Depth to bedrock Large stones	0.37 0.36 0.29 0.03
Chiswell-----	30	Not limited		Not limited		Very limited Depth to bedrock Droughty Slope Large stones	1.00 0.98 0.37 0.11
Groseclose-----	20	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.37
33E: Litz-----	35	Very limited Slope	1.00	Not limited		Very limited Slope Droughty Depth to bedrock Large stones	1.00 0.36 0.29 0.03

Table 10.-Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33E: Chiswell-----	25	Very limited Slope	1.00	Not limited		Very limited Depth to bedrock Slope Droughty Large stones	1.00 1.00 0.98 0.11
Groseclose-----	25	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion	1.00	Very limited Slope	1.00
33F: Litz-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Droughty Depth to bedrock Large stones	1.00 0.36 0.29 0.03
Chiswell-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope Droughty Large stones	1.00 1.00 0.98 0.11
Groseclose-----	20	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00

Table 10.-Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34C: Litz, very stony----	55	Somewhat limited Large stones content	0.76	Somewhat limited Large stones content	0.76	Somewhat limited Droughty Depth to bedrock Slope Large stones	0.36 0.29 0.04 0.03
Needmore, very stony-----	35	Very limited Water erosion Large stones content	1.00 0.76	Very limited Water erosion Large stones content	1.00 0.76	Somewhat limited Depth to bedrock Slope	0.20 0.04
34E: Litz, very stony----	55	Very limited Slope Large stones content	1.00 0.76	Somewhat limited Large stones content	0.76	Very limited Slope Droughty Depth to bedrock Large stones	1.00 0.36 0.29 0.03
Needmore, very stony-----	35	Very limited Water erosion Slope Large stones content	1.00 1.00 0.76	Very limited Water erosion Large stones content	1.00 0.76	Very limited Slope Depth to bedrock	1.00 0.20
34F: Litz, very stony----	55	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Droughty Depth to bedrock Large stones	1.00 0.36 0.29 0.03



Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34F: Needmore, very stony-----	35	Very limited Slope Water erosion Large stones content	1.00 1.00 0.76	Very limited Water erosion Slope Large stones content	1.00 1.00 0.76	Very limited Slope Depth to bedrock	1.00 0.20
35C: Lodi-----	40	Somewhat limited Too sandy	0.12	Somewhat limited Too sandy	0.12	Somewhat limited Slope	0.37
McClung-----	35	Not limited		Not limited		Somewhat limited Slope	0.37
Lily-----	20	Not limited		Not limited		Somewhat limited Slope Depth to bedrock	0.37 0.29
35E: Lodi-----	35	Very limited Slope Too sandy	1.00 0.12	Somewhat limited Too sandy	0.12	Very limited Slope	1.00
McClung-----	30	Very limited Slope	1.00	Not limited		Very limited Slope	1.00
Lily-----	25	Very limited Slope	1.00	Not limited		Very limited Slope Depth to bedrock	1.00 0.29

Table 10.-Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
36C: Lostcove, extremely stony-----	80	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Very limited Large stones Slope Droughty Gravel	1.00 0.37 0.24 0.01
37E: Lostcove, very stony-----	80	Very limited Slope Large stones content	1.00 0.76	Somewhat limited Large stones content	0.76	Very limited Slope Large stones Droughty Gravel	1.00 1.00 0.24 0.01
37F: Lostcove, very stony-----	80	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones Droughty Gravel	1.00 1.00 0.24 0.01
38E: Marbleyard, extremely stony----	70	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content	1.00	Very limited Slope Large stones Droughty Depth to bedrock	1.00 1.00 1.00 0.06
Rock outcrop-----	15	Not rated		Not rated		Not rated	

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
39F: Marbleyard, extremely stony----	45	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Slope Large stones Droughty Depth to bedrock	1.00 1.00 1.00 0.06
Sherando, extremely stony-----	30	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Slope Droughty Gravel	1.00 0.94 0.88
Rock outcrop-----	20	Not rated		Not rated		Not rated	
39G: Marbleyard, extremely stony----	45	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Slope Large stones Droughty Depth to bedrock	1.00 1.00 1.00 0.06
Sherando, extremely stony-----	30	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Slope Droughty Gravel	1.00 0.94 0.88
Rock outcrop-----	20	Not rated		Not rated		Not rated	

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
40A: Maurertown-----	50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
Toms-----	45	Very limited Depth to saturated zone Ponding	1.00	Very limited Depth to saturated zone Ponding	1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
41C: McCamy, very stony-----	85	Somewhat limited Large stones content	0.47	Somewhat limited Large stones content	0.47	Somewhat limited Depth to bedrock Droughty Slope	0.35 0.29 0.04
42F: McClung, very stony-----	40	Very limited Slope Large stones content	1.00 0.19	Very limited Slope Large stones content	1.00 0.19	Very limited Slope	1.00
Caneyville, very stony-----	30	Very limited Slope Water erosion Large stones content	1.00 1.00 0.19	Very limited Water erosion Slope Large stones content	1.00 1.00 0.19	Very limited Slope Depth to bedrock Droughty	1.00 0.84 0.12

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
42F: Dekalb, very stony-----	25	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Large stones content	1.00 0.76	Very limited Slope Droughty Depth to bedrock Large stones	1.00 0.60 0.29 0.16
43C: Needmore-----	60	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Depth to bedrock Slope	0.20 0.04
Opequon-----	30	Not limited		Not limited		Very limited Depth to bedrock Droughty Slope	1.00 1.00 0.04
43E: Needmore-----	55	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion	1.00	Very limited Slope Depth to bedrock	1.00 0.20
Opequon-----	35	Very limited Slope	1.00	Not limited		Very limited Depth to bedrock Slope Droughty	1.00 1.00 1.00
43F: Needmore-----	50	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope Depth to bedrock	1.00 0.20

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
43F: Opequon-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope Droughty	1.00 1.00 1.00
44E: Needmore-----	70	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion	1.00	Very limited Slope Depth to bedrock	1.00 1.00 0.20
Urban land-----	25	Not rated		Not rated		Not rated	
45B: Nicelytown-----	80	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
46B: Nicelytown-----	50	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
Urban land-----	45	Not rated		Not rated		Not rated	
47C: Oriskany, extremely stony-----	65	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Somewhat limited Large stones Slope	0.99 0.37

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47C: Laidig, extremely stony-----	25	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Somewhat limited Slope Depth to cemented pan Large stones	0.37 0.29 0.16
47E: Oriskany, extremely stony-----	60	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content	1.00	Very limited Slope Large stones	1.00 0.99
Laidig, extremely stony-----	30	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content	1.00	Very limited Slope Depth to cemented pan Large stones	1.00 0.29 0.16
48F: Oriskany, extremely stony-----	80	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Slope Large stones	1.00 0.99

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
49C: Oriskany, extremely stony-----	55	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Somewhat limited Large stones Slope	0.99 0.37
Murrill, extremely stony-----	35	Very limited Large stones content	1.00	Very limited Large stones content	1.00	Very limited Large stones Slope	1.00 0.37
49E: Oriskany, extremely stony-----	55	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content	1.00	Very limited Slope Large stones	1.00 0.99
Murrill, extremely stony-----	35	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content	1.00	Very limited Slope Large stones	1.00 1.00
49F: Oriskany, extremely stony-----	65	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Slope Large stones	1.00 0.99



Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
49F: Murrill, extremely stony-----	25	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Slope Large stones	1.00 1.00
50E: Peaks, very rocky---	55	Very limited Slope Large stones content	1.00 0.53	Somewhat limited Large stones content	0.53	Very limited Slope Droughty Depth to bedrock Gravel	1.00 1.00 0.95 0.03
Edneytown, very rocky-----	40	Very limited Water erosion Slope Large stones content	1.00 1.00 0.53	Very limited Water erosion Large stones content	1.00 0.53	Very limited Slope	1.00
50F: Peaks, very rocky---	55	Very limited Slope Large stones content	1.00 0.53	Very limited Slope Large stones content	1.00 0.53	Very limited Slope Droughty Depth to bedrock Gravel	1.00 1.00 0.95 0.03

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
50F: Edneytown, very rocky-----	40	Very limited Slope Water erosion Large stones content	1.00 1.00 0.53	Very limited Water erosion Slope Large stones content	1.00 1.00 0.53	Very limited Slope	1.00
51A: Philo-----	75	Somewhat limited Depth to saturated zone	0.01	Somewhat limited Depth to saturated zone	0.01	Somewhat limited Flooding Depth to saturated zone	0.60 0.28
52C: Pignut, very stony-----	50	Very limited Water erosion Large stones content	1.00 0.76	Very limited Water erosion Large stones content	1.00 0.76	Somewhat limited Slope Depth to bedrock	0.04 0.03
Myersville, very stony-----	40	Very limited Water erosion Large stones content	1.00 0.76	Very limited Water erosion Large stones content	1.00 0.76	Somewhat limited Slope	0.04

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
53E: Pignut, very stony-----	90	Very limited Water erosion Slope Large stones content	1.00 1.00 0.76	Very limited Water erosion Large stones content	1.00 0.76	Very limited Slope Depth to bedrock	1.00 0.03
53F: Pignut, very stony-----	90	Very limited Slope Water erosion Large stones content	1.00 1.00 0.76	Very limited Water erosion Slope Large stones content	1.00 1.00 0.76	Very limited Slope Depth to bedrock	1.00 0.03
54: Pits-----	50	Not rated		Not rated		Not rated	
Dumps-----	45	Not rated		Not rated		Not rated	
55A: Pope-----	90	Not limited		Not limited		Somewhat limited Flooding	0.60
56G: Rock outcrop-----	60	Not rated		Not rated		Not rated	
Opequon-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope Droughty	1.00 1.00 1.00

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
57A: Sensabaugh-----	40	Not limited		Not limited		Somewhat limited Flooding	0.60
Lobdell-----	30	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone Flooding	0.75 0.60
Derroc-----	20	Somewhat limited Large stones content	0.10	Somewhat limited Large stones content	0.10	Very limited Large stones Flooding Droughty	1.00 0.60 0.05
58B: Shottower-----	90	Not limited		Not limited		Not limited	
58C: Shottower-----	90	Not limited		Not limited		Somewhat limited Slope	0.37
58D: Shottower-----	85	Somewhat limited Slope	0.50	Not limited		Very limited Slope	1.00
59E: Shottower-----	85	Somewhat limited Slope	0.92	Not limited		Very limited Slope Large stones	1.00 0.32
60C: Shottower-----	50	Not limited		Not limited		Not limited	

Table 10.-Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
60C: Urban land-----	45	Not rated		Not rated		Not rated	
61B: Siabtown-----	80	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.03
61C: Siabtown-----	80	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope Depth to saturated zone	0.37 0.03
62: Slickens-----	100	Not rated		Not rated		Not rated	
63E: Stumptown, extremely stony----	40	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content	1.00	Very limited Slope Gravel Droughty Depth to bedrock	1.00 0.95 0.81 0.20
Marbleyard, extremely stony----	35	Very limited Large stones content Slope	1.00	Very limited Large stones content	1.00	Very limited Slope Large stones Droughty Depth to bedrock	1.00 1.00 1.00 0.06
Rock outcrop-----	15	Not rated		Not rated		Not rated	

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
63F: Stumptown, extremely stony----	40	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Slope Gravel Droughty Depth to bedrock	1.00 0.95 0.81 0.20
Marbleyard, extremely stony----	35	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Slope Large stones Droughty Depth to bedrock	1.00 1.00 1.00 0.06
Rock outcrop-----	15	Not rated		Not rated		Not rated	
63G: Stumptown, extremely stony----	40	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Slope Gravel Droughty Depth to bedrock	1.00 0.95 0.81 0.20
Marbleyard, extremely stony----	35	Very limited Large stones content Slope	1.00 1.00	Very limited Large stones content Slope	1.00 1.00	Very limited Slope Large stones Droughty Depth to bedrock	1.00 1.00 1.00 0.06
Rock outcrop-----	15	Not rated		Not rated		Not rated	

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
64E: Stumptown, very stony-----	50	Very limited					
		Slope	1.00	Somewhat limited		Very limited	1.00
		Large stones	0.19	Large stones	0.19	Slope	0.95
		content		content		Gravel	0.81
Sylco, very stony---	45					Depth to bedrock	0.20
		Very limited					
		Slope	1.00	Somewhat limited		Very limited	
		Large stones	0.76	Large stones	0.76	Slope	1.00
64F: Stumptown, very stony-----	50	content		content		Droughty	0.71
						Large stones	0.61
						Depth to bedrock	0.54
Sylco, very stony---	35	Very limited					
		Slope	1.00	Very limited		Very limited	
		Large stones	0.19	Slope	1.00	Slope	1.00
		content		Large stones	0.19	Gravel	0.95
Sylco, very stony---	35			content		Droughty	0.81
		Very limited				Depth to bedrock	0.20
		Slope	1.00	Very limited			
		Large stones	0.76	Slope	1.00	Very limited	
Sylco, very stony---	35	content		content		Slope	1.00
						Droughty	0.71
						Large stones	0.61
						Depth to bedrock	0.54

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65E: Sylco, very rocky---	45	Very limited Slope	1.00	Not limited		Very limited Slope	1.00
						Droughty	0.71
						Large stones	0.61
						Depth to bedrock	0.54
Marbleyard, very rocky-----	40	Very limited Large stones content Slope	1.00	Very limited Large stones content	1.00	Very limited Slope	1.00
			1.00			Large stones	1.00
						Droughty	1.00
						Depth to bedrock	0.06
65F: Sylco, very rocky---	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
						Droughty	0.71
						Large stones	0.61
						Depth to bedrock	0.54
Marbleyard, very rocky-----	45	Very limited Large stones content Slope	1.00	Very limited Large stones content Slope	1.00	Very limited Slope	1.00
						Large stones	1.00
			1.00		1.00	Droughty	1.00
						Depth to bedrock	0.06



Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65G: Syico, very rocky---	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
						Droughty	0.71
						Large stones	0.61
						Depth to bedrock	0.54
Marbleyard, very rocky-----	35	Very limited Large stones content Slope	1.00	Very limited Large stones content Slope	1.00	Very limited Slope	1.00
						Large stones	1.00
						Droughty	1.00
						Depth to bedrock	0.06
66C: Thunder, very bouldery-----	50	Somewhat limited Large stones content	0.19	Somewhat limited Large stones content	0.19	Very limited Large stones Slope	1.00 0.37
Saunook, very bouldery-----	30	Somewhat limited Large stones content	0.19	Somewhat limited Large stones content	0.19	Somewhat limited Gravel Slope	0.40 0.37
						Large stones	0.01
66E: Thunder, very bouldery-----	50	Very limited Slope Large stones content	1.00 0.19	Somewhat limited Large stones content	0.19	Very limited Slope	1.00
						Large stones	1.00

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
66E: Saunook, very bouldery-----	30	Very limited Slope Large stones content	1.00 0.19	Somewhat limited Large stones content	0.19	Very limited Slope Gravel Large stones	1.00 0.40 0.01
66F: Thunder, very bouldery-----	50	Very limited Slope Large stones content	1.00 0.19	Very limited Slope Large stones content	1.00 0.19	Very limited Slope Large stones	1.00 1.00
Saunook, very bouldery-----	30	Very limited Slope Large stones content	1.00 0.19	Very limited Slope Large stones content	1.00 0.19	Very limited Slope Gravel Large stones	1.00 0.40 0.01
67C: Tumbling-----	50	Not limited		Not limited		Somewhat limited Slope	0.37
Vanella-----	40	Not limited		Not limited		Somewhat limited Slope Large stones	0.37 0.03
67D: Tumbling-----	50	Somewhat limited Slope	0.50	Not limited		Very limited Slope	1.00

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
67D: Vanella-----	40	Somewhat limited Slope	0.50	Not limited		Very limited Slope Large stones	1.00 0.03
67E: Tumbling-----	50	Very limited Slope	1.00	Somewhat limited Slope	0.22	Very limited Slope	1.00
Vanella-----	40	Very limited Slope	1.00	Somewhat limited Slope	0.22	Very limited Slope Large stones	1.00 0.03
68D: Tumbling-----	35	Not limited		Not limited		Somewhat limited Slope	0.37
Vanella-----	30	Not limited		Not limited		Somewhat limited Slope Large stones	0.37 0.03
Urban land-----	25	Not rated		Not rated		Not rated	
69A: Tygart-----	55	Very limited Depth to saturated zone Ponding	1.00	Very limited Depth to saturated zone Ponding	1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
Purdy-----	40	Very limited Depth to saturated zone Ponding	1.00	Very limited Depth to saturated zone Ponding	1.00	Very limited Ponding Depth to saturated zone	1.00 1.00

Table 10.-Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70: Udorthents, refuse substratum-----	85	Not rated		Not rated		Not rated	
71: Udorthents-----	50	Not rated		Not rated		Not rated	
Urban land-----	45	Not rated		Not rated		Not rated	
72C: Unaka, very stony---	60	Somewhat limited Large stones content	0.76	Somewhat limited Large stones content	0.76	Somewhat limited Depth to bedrock Slope Gravel Droughty	0.71 0.16 0.11 0.11
Plott, very stony---	30	Somewhat limited Large stones content	0.76	Somewhat limited Large stones content	0.76	Somewhat limited Slope	0.16
72E: Unaka, very stony---	65	Very limited Slope Large stones content	1.00 0.76	Somewhat limited Large stones content	0.76	Very limited Slope Depth to bedrock Gravel Droughty	1.00 0.71 0.11 0.11
Plott, very stony---	30	Very limited Slope Large stones content	1.00 0.76	Somewhat limited Large stones content	0.76	Very limited Slope	1.00

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73C: Vanella, very stony-----	50	Somewhat limited Large stones content	0.53	Somewhat limited Large stones content	0.53	Somewhat limited Large stones Slope	0.79 0.04
Tumbling, very stony-----	40	Somewhat limited Large stones content	0.53	Somewhat limited Large stones content	0.53	Somewhat limited Large stones Slope	0.32 0.04
73E: Vanella, very stony-----	50	Somewhat limited Slope Large stones content	0.92 0.53	Somewhat limited Large stones content	0.53	Very limited Slope Large stones	1.00 0.79
Tumbling, very stony-----	40	Somewhat limited Slope Large stones content	0.92 0.53	Somewhat limited Large stones content	0.53	Very limited Slope Large stones	1.00 0.32
74C: Watahala, very stony-----	60	Somewhat limited Large stones content	0.19	Somewhat limited Large stones content	0.19	Somewhat limited Large stones Slope Gravel	0.74 0.37 0.08

Table 10.-Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74C: Frederick, very stony-----	30	Somewhat limited Large stones content	0.19	Somewhat limited Large stones content	0.19	Somewhat limited Large stones Slope	0.84 0.37
74E: Watahala, very stony-----	50	Very limited Slope Large stones content	1.00 0.19	Somewhat limited Large stones content	0.19	Very limited Slope Large stones Gravel	1.00 0.74 0.08
Frederick, very stony-----	35	Very limited Slope Large stones content	1.00 0.19	Somewhat limited Large stones content	0.19	Very limited Slope Large stones	1.00 0.84
74F: Watahala, very stony-----	60	Very limited Slope Large stones content	1.00 0.19	Very limited Slope Large stones content	1.00 0.19	Very limited Slope Large stones Gravel	1.00 0.74 0.08
Frederick, very stony-----	20	Very limited Slope Large stones content	1.00 0.19	Very limited Slope Large stones content	1.00 0.19	Very limited Slope Large stones	1.00 0.84

Table 10.-Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75E: Weikert-----	45	Very limited Slope	1.00	Not limited		Very limited Depth to bedrock Slope	1.00
						Droughty	1.00
						Gravel	0.01
						Large stones	0.20
Berks-----	30	Very limited Slope	1.00	Not limited		Very limited Slope	1.00
						Depth to bedrock	0.46
						Large stones	0.38
Rough-----	20	Very limited Slope	1.00	Not limited		Very limited Depth to bedrock Slope	1.00
						Droughty	1.00
						Gravel	0.54
						Large stones	0.61
75F: Weikert-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope	1.00
						Droughty	1.00
						Gravel	0.01
						Large stones	0.20
Berks-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
						Depth to bedrock	0.46
						Large stones	0.38

Table 10.--Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75F: Rough-----	15	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope	1.00
						Droughty	1.00
						Gravel	0.54
						Large stones	0.61
76G: Weikert-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope	1.00
						Droughty	1.00
						Gravel	0.01
						Large stones	0.20
Rough-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope	1.00
						Droughty	1.00
						Gravel	0.54
						Large stones	0.61
Rock outcrop-----	25	Not rated		Not rated		Not rated	
77C: Wintergreen-----	90	Not limited		Not limited		Somewhat limited Slope	0.37
77D: Wintergreen-----	90	Somewhat limited Slope	0.50	Not limited		Very limited Slope	1.00



Table 10.-Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
77E: Wintergreen-----	90	Very limited Slope	1.00	Somewhat limited Slope	0.22	Very limited Slope	1.00
78E: Wintergreen, very stony-----	85	Very limited Slope Large stones content	1.00 0.47	Somewhat limited Large stones content	0.47	Very limited Slope	1.00
79A: Wolfgap-----	90	Not limited		Not limited		Not limited	
80A: Wolfgap-----	35	Not limited		Not limited		Not limited	
Derroc-----	30	Somewhat limited Large stones content	0.10	Somewhat limited Large stones content	0.10	Very limited Large stones Droughty	1.00 0.05
Urban land-----	25	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Table 11.-Building Site Development, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1A: Alonzville, rarely flooded-----	80	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
2B: Alonzville-----	80	Not limited		Not limited		Somewhat limited Slope	0.12
3B: Alonzville-----	50	Not limited		Not limited		Somewhat limited Slope	0.12
Urban land-----	45	Not rated		Not rated		Not rated	
4C: Berks-----	50	Somewhat limited Depth to hard bedrock Slope	0.46 0.37	Very limited Depth to hard bedrock Slope	1.00 0.37	Very limited Slope Depth to hard bedrock	1.00 0.46
Weikert-----	40	Very limited Depth to hard bedrock Slope	1.00 0.37	Very limited Depth to hard bedrock Slope	1.00 0.37	Very limited Depth to hard bedrock Slope	1.00 1.00

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
5A: Botetourt-----	90	Very limited Flooding Depth to saturated zone	1.00 0.39	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.39
6A: Botetourt-----	50	Very limited Flooding Depth to saturated zone	1.00 0.39	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.39
Urban land-----	45	Not rated		Not rated		Not rated	
7A: Buckton-----	55	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
Weaver-----	30	Very limited Flooding Depth to saturated zone	1.00 0.98	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.98
8F: Caneyville-----	60	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 0.94 0.84	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 0.94	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 0.94 0.84
Frederick-----	20	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50

Table 11.-Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8F: Rock outcrop-----	15	Not rated		Not rated		Not rated	
9C: Carbo, very rocky---	55	Very limited Shrink-swell Depth to hard bedrock Slope	1.00 0.84 0.04	Very limited Shrink-swell Depth to hard bedrock Slope	1.00 1.00 0.04	Very limited Shrink-swell Slope Depth to hard bedrock	1.00 1.00 0.84
Opequon, very rocky-----	30	Very limited Shrink-swell Depth to hard bedrock Slope	1.00 1.00 0.04	Very limited Shrink-swell Depth to hard bedrock Slope	1.00 1.00 0.04	Very limited Shrink-swell Depth to hard bedrock Slope	1.00 1.00 1.00
9E: Carbo, very rocky---	50	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 1.00 0.84	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 1.00 0.84	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 1.00 0.84
Opequon, very rocky-----	35	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 1.00 1.00	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 1.00 1.00	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 1.00 1.00

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
10F: Carbo-----	55	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 1.00 0.84	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 1.00 1.00	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 1.00 0.84
Opequon-----	25	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 1.00 1.00	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 1.00 1.00	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
11B: Cottonbend-----	85	Not limited		Not limited		Somewhat limited Slope	0.12
11C: Cottonbend-----	85	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
12A: Coursey, rarely flooded-----	80	Very limited Flooding Depth to saturated zone	1.00 0.39	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.39

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
13B: Coursey-----	80	Somewhat limited Depth to saturated zone	0.39	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.39
14C: Dekalb, very stony-----	50	Somewhat limited Large stones Slope Depth to hard bedrock	0.58 0.04 0.29	Very limited Depth to hard bedrock Large stones Slope	1.00 0.58 0.04	Very limited Slope Large stones Depth to hard bedrock	1.00 0.58 0.29
Lehew, very stony---	20	Very limited Large stones Slope Depth to hard bedrock	1.00 0.04 0.03	Very limited Depth to hard bedrock Large stones Slope	1.00 0.04 0.04	Very limited Slope Large stones Depth to hard bedrock	1.00 1.00 0.03
Berks, very stony---	15	Somewhat limited Depth to hard bedrock Slope	0.46 0.04	Very limited Depth to hard bedrock Slope	1.00 0.04	Very limited Slope Depth to hard bedrock	1.00 0.46
14E: Dekalb, very stony-----	50	Very limited Slope Large stones Depth to hard bedrock	1.00 0.58 0.29	Very limited Slope Depth to hard bedrock Large stones	1.00 1.00 0.58	Very limited Slope Large stones Depth to hard bedrock	1.00 0.58 0.29

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14E: Lehew, very stony---	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones	1.00	Depth to hard	1.00	Large stones	1.00
		Depth to hard bedrock	0.03	bedrock		Depth to hard bedrock	0.03
				Large stones	1.00	bedrock	
Berks, very stony---	15	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to hard bedrock	0.46	Depth to hard bedrock	1.00	Depth to hard bedrock	0.46
14F: Dekalb, very stony-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones	0.58	Depth to hard	1.00	Large stones	0.58
		Depth to hard bedrock	0.29	bedrock		Depth to hard bedrock	0.29
				Large stones	0.58	bedrock	
Lehew, very stony---	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones	1.00	Depth to hard	1.00	Large stones	1.00
		Depth to hard bedrock	0.03	bedrock		Depth to hard bedrock	0.03
				Large stones	1.00	bedrock	
Berks, very stony---	15	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to hard bedrock	0.46	Depth to hard bedrock	1.00	Depth to hard bedrock	0.46

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of map	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15E: Dekalb, extremely stony-----	50	Very limited Slope Large stones Depth to hard bedrock	1.00 0.58 0.29	Very limited Slope Depth to hard bedrock Large stones	1.00 1.00 0.58	Very limited Slope Large stones Depth to hard bedrock	1.00 0.58 0.29
Lehew, extremely stony-----	30	Very limited Slope Large stones Depth to hard bedrock	1.00 1.00 0.03	Very limited Slope Depth to hard bedrock Large stones	1.00 1.00 1.00	Very limited Slope Large stones Depth to hard bedrock	1.00 1.00 0.03
Rock outcrop-----	15	Not rated		Not rated		Not rated	
15F: Dekalb, extremely stony-----	50	Very limited Slope Large stones Depth to hard bedrock	1.00 0.58 0.29	Very limited Slope Depth to hard bedrock Large stones	1.00 1.00 0.58	Very limited Slope Large stones Depth to hard bedrock	1.00 0.58 0.29
Lehew, extremely stony-----	20	Very limited Slope Large stones Depth to hard bedrock	1.00 1.00 0.03	Very limited Slope Depth to hard bedrock Large stones	1.00 1.00 1.00	Very limited Slope Large stones Depth to hard bedrock	1.00 1.00 0.03
Rock outcrop-----	15	Not rated		Not rated		Not rated	



Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16C: Dekalb, very stony-----	60	Somewhat limited Large stones Slope Depth to hard bedrock	0.58 0.37 0.29	Very limited Depth to hard bedrock Large stones Slope	1.00 1.00 0.58 0.37	Very limited Slope Large stones Depth to hard bedrock	1.00 0.58 0.29
Lily, very stony----	30	Somewhat limited Slope Depth to hard bedrock	0.37 0.29	Very limited Depth to hard bedrock Slope	1.00 1.00 0.37	Very limited Slope Depth to hard bedrock	1.00 0.29
16E: Dekalb, very stony-----	50	Very limited Slope Large stones Depth to hard bedrock	1.00 0.58 0.29	Very limited Slope Depth to hard bedrock Large stones	1.00 1.00 0.58	Very limited Slope Large stones Depth to hard bedrock	1.00 0.58 0.29
Lily, very stony----	40	Very limited Slope Depth to hard bedrock	1.00 0.29	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 0.29
17F: Dekalb, very stony-----	75	Very limited Slope Large stones Depth to hard bedrock	1.00 0.58 0.29	Very limited Slope Depth to hard bedrock Large stones	1.00 1.00 0.58	Very limited Slope Large stones Depth to hard bedrock	1.00 0.58 0.29

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17F: Lily, very stony----	20	Very limited Slope Depth to hard bedrock	1.00 0.29	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 0.29
18A: Derroc-----	85	Very limited Flooding Large stones		Very limited Flooding Large stones		Very limited Flooding Large stones	
19C: Edneytown-----	90	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
19D: Edneytown-----	90	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
20C: Edneytown, very stony-----	60	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
Peaks, very stony---	35	Somewhat limited Depth to hard bedrock Slope	0.54 0.37	Very limited Depth to hard bedrock Depth to soft bedrock Slope	1.00 0.95 0.37	Very limited Slope Depth to hard bedrock	1.00 0.54

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20E: Edneytown, very stony-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Peaks, very stony---	35	Very limited Slope Depth to hard bedrock	1.00 0.54	Very limited Slope Depth to hard bedrock Depth to soft bedrock	1.00 1.00 0.95	Very limited Slope Depth to hard bedrock	1.00 0.54
20F: Edneytown, very stony-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Peaks, very stony---	35	Very limited Slope Depth to hard bedrock	1.00 0.54	Very limited Slope Depth to hard bedrock Depth to soft bedrock	1.00 1.00 0.95	Very limited Slope Depth to hard bedrock	1.00 0.54
21B: Escatawba-----	80	Not limited		Very limited Depth to saturated zone	1.00	Somewhat limited Slope	0.12

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
21C: Escatawba-----	80	Somewhat limited Slope	0.37	Very limited Depth to saturated zone Slope	1.00	Very limited Slope	1.00
22B: Frederick-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.12
22C: Frederick-----	80	Somewhat limited Shrink-swell Slope	0.50 0.37	Somewhat limited Shrink-swell Slope	0.50 0.37	Very limited Slope Shrink-swell	1.00 0.50
22D: Frederick-----	80	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
23E: Frederick-----	65	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Caneyville-----	30	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 0.94 0.84	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 0.94 0.94	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 0.94 0.84

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
24C: Frederick, very rocky-----	45	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Shrink-swell Slope	0.50 0.04	Very limited Slope Shrink-swell	1.00 0.50
Caneyville, very rocky-----	35	Somewhat limited Shrink-swell Depth to hard bedrock Slope	0.94 0.84 0.04	Very limited Depth to hard bedrock Shrink-swell Slope	1.00 0.94 0.04	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 0.94 0.84
24E: Frederick, very rocky-----	40	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Caneyville, very rocky-----	38	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 0.94 0.84	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 0.94	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 0.94 0.84
25C: Frederick-----	60	Somewhat limited Shrink-swell Slope	0.50 0.37	Somewhat limited Shrink-swell Slope	0.50 0.37	Very limited Slope Shrink-swell	1.00 0.50
Watahala-----	30	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25D: Frederick-----	45	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Watahala-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
25E: Frederick-----	50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Watahala-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
26A: Gladehill-----	85	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
27B: Groseclose-----	80	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.12
27C: Groseclose-----	80	Somewhat limited Shrink-swell Slope	0.50 0.37	Somewhat limited Shrink-swell Slope	0.50 0.37	Very limited Slope Shrink-swell	1.00 0.50

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
27D: Groseclose-----	80	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
28E: Groseclose-----	50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Needmore-----	40	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Depth to soft bedrock	1.00 0.50 0.20	Very limited Slope Shrink-swell	1.00 0.50
29C: Groseclose-----	35	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.88 0.50
Needmore-----	30	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Shrink-swell Depth to soft bedrock Slope	0.50 0.20 0.04	Very limited Slope Shrink-swell	1.00 0.50
Urban land-----	25	Not rated		Not rated		Not rated	

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
30A: Holly-----	50	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
Orrville-----	45	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
31A: Ingledove-----	85	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
32A: Irongate-----	85	Very limited Flooding Depth to saturated zone	1.00 0.72	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.72
33C: Litz-----	35	Somewhat limited Slope Depth to hard bedrock	0.37 0.01	Very limited Depth to hard bedrock Slope Depth to soft bedrock	1.00 1.00 0.37 0.29	Very limited Slope Depth to hard bedrock	1.00 0.01



Table 11.-Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33C: Chiswell-----	30	Somewhat limited					
		Slope	0.37	Very limited		Very limited	
		Depth to soft bedrock	0.50	Depth to soft bedrock Slope	1.00 0.37	Slope Depth to soft bedrock	1.00 1.00
Groseclose-----	20	Somewhat limited					
		Shrink-swell	0.50	Somewhat limited		Very limited	
		Slope	0.37	Shrink-swell Slope	0.50 0.37	Slope Shrink-swell	1.00 0.50
33E: Litz-----	35	Very limited					
		Slope	1.00	Very limited		Very limited	
		Depth to hard bedrock	0.01	Slope Depth to hard bedrock Depth to soft bedrock	1.00 1.00 0.29	Slope Depth to hard bedrock	1.00 0.01
Chiswell-----	25	Very limited					
		Slope	1.00	Very limited		Very limited	
		Depth to soft bedrock	0.50	Slope Depth to soft bedrock	1.00 1.00	Slope Depth to soft bedrock	1.00 1.00
Groseclose-----	25	Very limited					
		Slope	1.00	Very limited		Very limited	
		Shrink-swell	0.50	Slope Shrink-swell	1.00 0.50	Slope Shrink-swell	1.00 0.50

Table 11.-Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33F: Litz-----	35	Very limited					
		Slope	1.00	Very limited		Very limited	
		Depth to hard	0.01	Slope	1.00	Slope	1.00
		bedrock		Depth to hard	1.00	Depth to hard	0.01
Chiswell-----	30			bedrock		bedrock	
				Depth to soft	0.29		
				bedrock			
Groseclose-----	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to soft	0.50	Depth to soft	1.00	Depth to soft	1.00
		bedrock		bedrock		bedrock	
34C: Litz, very stony----	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Needmore, very stony-----	35	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Depth to hard	1.00	Slope	1.00
		Depth to hard	0.01	bedrock		Depth to hard	0.01
		bedrock		Depth to soft	0.29	bedrock	
Needmore, very stony-----	35			bedrock			
				Slope	0.04		
Needmore, very stony-----	35	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Depth to soft	0.04	Shrink-swell	0.50
				bedrock	0.20		

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34E: Litz, very stony----	55	Very limited Slope Depth to hard bedrock	1.00 0.01	Very limited Slope Depth to hard bedrock Depth to soft bedrock	1.00 1.00 0.29	Very limited Slope Depth to hard bedrock	1.00 0.01
Needmore, very stony-----	35	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell Depth to soft bedrock	1.00 0.50 0.20	Very limited Slope Shrink-swell	1.00 0.50
34F: Litz, very stony----	55	Very limited Slope Depth to hard bedrock	1.00 0.01	Very limited Slope Depth to hard bedrock Depth to soft bedrock	1.00 1.00 0.29	Very limited Slope Depth to hard bedrock	1.00 0.01
Needmore, very stony-----	35	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell Depth to soft bedrock	1.00 0.50 0.20	Very limited Slope Shrink-swell	1.00 0.50

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
35C: Lodi-----	40	Somewhat limited Shrink-swell Slope	0.50 0.37	Somewhat limited Shrink-swell Slope	0.50 0.37	Very limited Slope Shrink-swell	1.00 0.50
McClung-----	35	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
Lily-----	20	Somewhat limited Slope Depth to hard bedrock	0.37 0.29	Very limited Depth to hard bedrock Slope	1.00 0.37	Very limited Slope Depth to hard bedrock	1.00 0.29
35E: Lodi-----	35	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
McClung-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Lily-----	25	Very limited Slope Depth to hard bedrock	1.00 0.29	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 0.29
36C: Lostcove, extremely stony-----	80	Very limited Large stones Slope	1.00 0.37	Very limited Large stones Slope Depth to saturated zone	1.00 0.37 0.01	Very limited Slope Large stones	1.00 1.00

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
37E: Lostcove, very stony-----	80	Very limited Slope Large stones	1.00 1.00	Very limited Slope Large stones Depth to saturated zone	1.00 1.00 0.01	Very limited Slope Large stones	1.00 1.00
37F: Lostcove, very stony-----	80	Very limited Slope Large stones	1.00 1.00	Very limited Slope Large stones Depth to saturated zone	1.00 1.00 0.01	Very limited Slope Large stones	1.00 1.00
38E: Marbleyard, extremely stony----	70	Very limited Slope Large stones Depth to hard bedrock	1.00 0.30 0.06	Very limited Slope Depth to hard saturated zone	1.00 1.00 0.01	Very limited Slope Large stones	1.00 1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
39F: Marbleyard, extremely stony----	45	Very limited Slope Large stones Depth to hard bedrock	1.00 0.30 0.06	Very limited Slope Depth to hard bedrock Large stones	1.00 1.00 0.30 0.06	Very limited Slope Large stones Depth to hard bedrock	1.00 0.30 0.06

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
39F: Sherando, extremely stony-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
39G: Marbleyard, extremely stony----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones	0.30	Depth to hard bedrock	0.06	Large stones	0.30
		Depth to hard bedrock		Large stones	0.30	Depth to hard bedrock	0.06
Sherando, extremely stony-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
40A: Maurertown-----	50	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00

Table 11.-Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
40A: Toms-----	45	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50
41C: McCamy, very stony-----	85	Somewhat limited Depth to hard bedrock Slope	0.35 0.04	Very limited Depth to hard bedrock Slope	1.00 0.04	Very limited Slope Depth to hard bedrock	1.00 0.35
42F: McClung, very stony-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Caneyville, very stony-----	30	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 0.94 0.84	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 0.94	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 0.94 0.84
Dekalb, very stony-----	25	Very limited Slope Large stones Depth to hard bedrock	1.00 0.58 0.29	Very limited Slope Depth to hard bedrock Large stones	1.00 1.00 0.58	Very limited Slope Large stones Depth to hard bedrock	1.00 0.58 0.29

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
43C: Needmore-----	60	Somewhat limited					
		Shrink-swell	0.50	Somewhat limited		Very limited	
		Slope	0.04	Shrink-swell	0.50	Slope	1.00
				Depth to soft	0.04	Shrink-swell	0.50
Opequon-----	30			bedrock	0.20		
		Very limited					
		Shrink-swell	1.00	Very limited		Very limited	
		Depth to hard	1.00	Shrink-swell	1.00	Shrink-swell	1.00
43E: Needmore-----	55	bedrock		Depth to hard	1.00	Depth to hard	1.00
		Slope	0.04	bedrock		bedrock	
				Slope	0.04	Slope	1.00
		Very limited					
Opequon-----	35	Slope	1.00	Very limited		Very limited	
		Shrink-swell	0.50	Slope	1.00	Slope	1.00
		Depth to hard		Shrink-swell	0.50	Shrink-swell	1.00
		bedrock		Depth to soft	0.20	Depth to hard	1.00
43F: Needmore-----	50			bedrock		bedrock	
		Very limited					
		Slope	1.00	Very limited		Very limited	
		Shrink-swell	0.50	Slope	1.00	Slope	1.00
				Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft	0.20	Shrink-swell	0.50
				bedrock			



Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
43F: Opequon-----	40	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 1.00 1.00	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 1.00 1.00	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 1.00 1.00
44E: Needmore-----	70	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell Depth to soft bedrock	1.00 0.50 0.20	Very limited Slope Shrink-swell	1.00 0.50
Urban land-----	25	Not rated		Not rated		Not rated	
45B: Nicelytown-----	80	Somewhat limited Depth to saturated zone	0.98	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Slope	0.98 0.12
46B: Nicelytown-----	50	Somewhat limited Depth to saturated zone	0.98	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Slope	0.98 0.12
Urban land-----	45	Not rated		Not rated		Not rated	

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47C: Oriskany, extremely stony-----	65	Somewhat limited Large stones Slope		Somewhat limited Large stones Slope		Very limited Slope Large stones	
			0.55 0.37		0.55 0.37		1.00 0.55
		Somewhat limited Slope Depth to thick cemented pan		Very limited Depth to thick cemented pan Depth to saturated zone Slope Depth to thin cemented pan		Very limited Slope Depth to thick cemented pan	
			0.37 0.29		1.00 0.99		1.00 0.29
47E: Oriskany, extremely stony-----	60	Very limited Slope Large stones		Very limited Slope Large stones		Very limited Slope Large stones	
			1.00 0.55		1.00 0.55		1.00 0.55
		Very limited Slope Depth to thick cemented pan		Very limited Slope Depth to thick cemented pan Depth to saturated zone Depth to thin cemented pan		Very limited Slope Depth to thick cemented pan	
			1.00 0.29		1.00 0.99		1.00 0.29
Laidig, extremely stony-----	30	Very limited Slope Depth to thick cemented pan		Very limited Slope Depth to thick cemented pan Depth to thin cemented pan		Very limited Slope Depth to thick cemented pan	
			1.00 0.29		1.00 0.29		1.00 0.29
		Very limited Slope Depth to thick cemented pan		Very limited Slope Depth to thick cemented pan Depth to thin cemented pan		Very limited Slope Depth to thick cemented pan	
			1.00 0.29		1.00 0.29		1.00 0.29

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
48F: Oriskany, extremely stony-----	80						
		Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones	0.55	Large stones	0.55	Large stones	0.55
49C: Oriskany, extremely stony-----	55						
		Somewhat limited Large stones	0.55	Somewhat limited Large stones	0.55	Very limited Slope	1.00
		Slope	0.37	Slope	0.37	Large stones	0.55
Murrill, extremely stony-----	35						
		Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
49E: Oriskany, extremely stony-----	55						
		Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones	0.55	Large stones	0.55	Large stones	0.55
Murrill, extremely stony-----	35						
		Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
49F: Oriskany, extremely stony-----	65						
		Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones	0.55	Large stones	0.55	Large stones	0.55

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
49F: Murrill, extremely stony-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
50E: Peaks, very rocky---	55	Very limited Slope Depth to hard bedrock	1.00 0.54	Very limited Slope Depth to hard bedrock Depth to soft bedrock	1.00 1.00 0.95	Very limited Slope Depth to hard bedrock	1.00 0.54
Edneytown, very rocky-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
50F: Peaks, very rocky---	55	Very limited Slope Depth to hard bedrock	1.00 0.54	Very limited Slope Depth to hard bedrock Depth to soft bedrock	1.00 1.00 0.95	Very limited Slope Depth to hard bedrock	1.00 0.54
Edneytown, very rocky-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
51A: Philo-----	75	Very limited Flooding Depth to saturated zone	1.00 0.56	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.56
52C: Pignut, very stony-----	50	Somewhat limited Slope Depth to hard bedrock	0.04 0.03	Very limited Depth to hard bedrock Slope	1.00 0.04	Very limited Slope Depth to hard bedrock	1.00 0.03
Myersville, very stony-----	40	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
53E: Pignut, very stony-----	90	Very limited Slope Depth to hard bedrock	1.00 0.03	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 0.03
53F: Pignut, very stony-----	90	Very limited Slope Depth to hard bedrock	1.00 0.03	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 0.03
54: Pits-----	50	Not rated		Not rated		Not rated	

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
54: Dumps-----	45	Not rated		Not rated		Not rated	
55A: Pope-----	90	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
56G: Rock outcrop-----	60	Not rated		Not rated		Not rated	
Opequon-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
57A: Sensabaugh-----	40	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
Lobdell-----	30	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
Derroc-----	20	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
		Large stones	0.25	Large stones	0.25	Large stones	0.25
58B: Shottower-----	90	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
						Slope	0.12

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
58C: Shottower-----	90	Somewhat limited Shrink-swell Slope	0.50 0.37	Somewhat limited Shrink-swell Slope	0.50 0.37	Very limited Slope Shrink-swell	1.00 0.50
58D: Shottower-----	85	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
59E: Shottower-----	85	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
60C: Shottower-----	50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Urban land-----	45	Not rated		Not rated		Not rated	
61B: Slabtown-----	80	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.07	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Somewhat limited Shrink-swell Slope Depth to saturated zone	0.50 0.12 0.07

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
61C: Slabtown-----	80	Somewhat limited Shrink-swell Slope Depth to saturated zone	0.50 0.37 0.07	Very limited Depth to saturated zone Shrink-swell Slope	1.00 1.00 0.37	Very limited Slope Shrink-swell Depth to saturated zone	1.00 0.50 0.07
62: Slickens-----	100	Not rated		Not rated		Not rated	
63E: Stumptown, extremely stony----	40	Very limited Slope Large stones Depth to hard bedrock	1.00 0.77 0.20	Very limited Slope Depth to hard bedrock Large stones	1.00 1.00 0.77 0.77	Very limited Slope Large stones Depth to hard bedrock	1.00 0.77 0.20
Marbleyard, extremely stony----	35	Very limited Slope Large stones Depth to hard bedrock	1.00 0.30 0.06	Very limited Slope Depth to hard bedrock Large stones	1.00 1.00 0.30	Very limited Slope Large stones Depth to hard bedrock	1.00 0.30 0.06
Rock outcrop-----	15	Not rated		Not rated		Not rated	



Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of map	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
63F: Stumptown, extremely stony----	40	Very limited					
		Slope	1.00	Very limited		Very limited	
		Large stones	0.77	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.20	Depth to hard bedrock	1.00	Large stones	0.77
Marbleyard, extremely stony----	35			Large stones	0.77	Depth to hard bedrock	0.20
		Very limited					
		Slope	1.00	Very limited		Very limited	
		Large stones	0.30	Slope	1.00	Slope	1.00
Rock outcrop-----	15	Depth to hard bedrock	0.06	Depth to hard bedrock	1.00	Large stones	0.30
				Large stones	0.30	Depth to hard bedrock	0.06
		Not rated		Not rated		Not rated	
63G: Stumptown, extremely stony----	40	Very limited					
		Slope	1.00	Very limited		Very limited	
		Large stones	0.77	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.20	Depth to hard bedrock	1.00	Large stones	0.77
Marbleyard, extremely stony----	35			Large stones	0.77	Depth to hard bedrock	0.20
		Very limited					
		Slope	1.00	Very limited		Very limited	
		Large stones	0.30	Slope	1.00	Slope	1.00
Rock outcrop-----	15	Depth to hard bedrock	0.06	Depth to hard bedrock	1.00	Large stones	0.30
				Large stones	0.30	Depth to hard bedrock	0.06
		Not rated		Not rated		Not rated	

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
64E: Stumptown, very stony-----	50	Very limited					
		Slope	1.00	Very limited		Very limited	
		Large stones	0.77	Slope	1.00	Slope	1.00
		Depth to hard	0.20	Depth to hard	1.00	Large stones	0.77
		bedrock		bedrock		Depth to hard	0.20
Sylco, very stony---	45	Very limited		Large stones	0.77	bedrock	
		Very limited					
		Slope	1.00	Very limited		Very limited	
		Depth to hard	0.54	Slope	1.00	Slope	1.00
		bedrock		Depth to hard	1.00	Depth to hard	0.54
64F: Stumptown, very stony-----	50	Large stones	0.17	bedrock		bedrock	
		Large stones		Large stones	0.17	Large stones	0.17
Sylco, very stony---	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.77	Depth to hard	1.00	Large stones	0.77
		Depth to hard	0.20	bedrock		Depth to hard	0.20
		bedrock		Large stones	0.77	bedrock	
Sylco, very stony---	35	Very limited					
		Slope	1.00	Very limited		Very limited	
		Depth to hard	0.54	Slope	1.00	Slope	1.00
		bedrock		Depth to hard	1.00	Depth to hard	0.54
		Large stones	0.17	bedrock		bedrock	
Sylco, very stony---	35	Large stones		Large stones	0.17	Large stones	0.17

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65E: Sylco, very rocky---	45	Very limited Slope Depth to hard bedrock Large stones	1.00 0.54 0.17	Very limited Slope Depth to hard bedrock Large stones	1.00 1.00 0.17	Very limited Slope Depth to hard bedrock Large stones	1.00 0.54 0.17
Marbleyard, very rocky-----	40	Very limited Slope Large stones Depth to hard bedrock	1.00 0.30 0.06	Very limited Slope Depth to hard bedrock Large stones	1.00 1.00 0.30 0.06	Very limited Slope Large stones Depth to hard bedrock	1.00 0.30 0.06
65F: Sylco, very rocky---	50	Very limited Slope Depth to hard bedrock Large stones	1.00 0.54 0.17	Very limited Slope Depth to hard bedrock Large stones	1.00 1.00 0.17	Very limited Slope Depth to hard bedrock Large stones	1.00 0.54 0.17
Marbleyard, very rocky-----	45	Very limited Slope Large stones Depth to hard bedrock	1.00 0.30 0.06	Very limited Slope Depth to hard bedrock Large stones	1.00 1.00 0.30 0.06	Very limited Slope Large stones Depth to hard bedrock	1.00 0.30 0.06

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65G: Sylco, very rocky----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to hard bedrock	0.54	Depth to hard bedrock	1.00	Depth to hard bedrock	0.54
		Large stones	0.17	Large stones	0.17	Large stones	0.17
Marbleyard, very rocky-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones	0.30	Depth to hard bedrock	1.00	Large stones	0.30
		Depth to hard bedrock	0.06	Large stones	0.30	Depth to hard bedrock	0.06
66C: Thunder, very bouldery-----	50	Very limited Large stones Slope	1.00 0.37	Very limited Large stones Slope	1.00 0.37	Very limited Large stones Slope	1.00 1.00
Saunook, very bouldery-----	30	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
66E: Thunder, very bouldery-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones	1.00	Large stones	1.00	Large stones	1.00
Saunook, very bouldery-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
66F: Thunder, very bouldery-----	50	Very limited Slope Large stones	1.00 1.00	Very limited Slope Large stones	1.00 1.00	Very limited Slope Large stones	1.00 1.00
Saunook, very bouldery-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
67C: Tumbling-----	50	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
Vanella-----	40	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
67D: Tumbling-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Vanella-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
67E: Tumbling-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Vanella-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
68D: Tumbling-----	35	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
Vanella-----	30	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
Urban land-----	25	Not rated		Not rated		Not rated	
69A: Tygart-----	55	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 0.50
Purdy-----	40	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 0.50
70: Udorthents, refuse substratum-----	85	Not rated		Not rated		Not rated	
71: Udorthents-----	50	Not rated		Not rated		Not rated	
Urban land-----	45	Not rated		Not rated		Not rated	

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
72C: Unaka, very stony---	60	Somewhat limited Slope	0.16	Very limited Depth to hard bedrock	1.00	Very limited Slope	1.00
		Depth to hard bedrock	0.71	Slope	0.16	Depth to hard bedrock	0.71
Plott, very stony---	30	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
72E: Unaka, very stony---	65	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to hard bedrock	0.71	Depth to hard bedrock	1.00	Depth to hard bedrock	0.71
Plott, very stony---	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
73C: Vanella, very stony-----	50	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Tumbling, very stony-----	40	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
73E: Vanella, very stony-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73E: Tumbling, very stony-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
74C: Watahala, very stony-----	60	Somewhat limited Shrink-swell Slope	0.50 0.37	Somewhat limited Shrink-swell Slope	0.50 0.37	Very limited Slope Shrink-swell	1.00 0.50
Frederick, very stony-----	30	Somewhat limited Shrink-swell Slope	0.50 0.37	Somewhat limited Shrink-swell Slope	0.50 0.37	Very limited Slope Shrink-swell	1.00 0.50
74E: Watahala, very stony-----	50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Frederick, very stony-----	35	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
74F: Watahala, very stony-----	60	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50



Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74F: Frederick, very stony-----	20	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
75E: Weikert-----	45	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
Berks-----	30	Very limited Slope Depth to hard bedrock	1.00 0.46	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 0.46
Rough-----	20	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
75F: Weikert-----	45	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
Berks-----	30	Very limited Slope Depth to hard bedrock	1.00 0.46	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 0.46

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75F: Rough-----	15	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
76G: Weikert-----	35	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
Rough-----	30	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	
77C: Wintergreen-----	90	Somewhat limited Shrink-swell Slope	0.50 0.37	Somewhat limited Shrink-swell Slope	0.50 0.37	Very limited Slope Shrink-swell	1.00 0.50
77D: Wintergreen-----	90	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
77E: Wintergreen-----	90	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50

Table 11.--Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
78E: Wintergreen, very stony-----	85	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
79A: Wolfgap-----	90	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
80A: Wolfgap-----	35	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
Derroc-----	30	Very limited Flooding Large stones	1.00 0.25	Very limited Flooding Large stones	1.00 0.25	Very limited Flooding Large stones	1.00 0.25
Urban land-----	25	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Table 11.--Building Site Development, Part II

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1A: Alonzville, rarely flooded-----	80	Somewhat limited Frost action Flooding	0.50 0.40	Very limited Unstable excavation walls	1.00	Not limited	
2B: Alonzville-----	80	Somewhat limited Frost action	0.50	Very limited Unstable excavation walls	1.00	Not limited	
3B: Alonzville-----	50	Somewhat limited Frost action	0.50	Very limited Unstable excavation walls	1.00	Not limited	
Urban land-----	45	Not rated		Not rated		Not rated	
4C: Berks-----	50	Somewhat limited Frost action Depth to hard bedrock Slope	0.50 0.46 0.37	Very limited Depth to hard bedrock Slope excavation walls	1.00 1.00 0.37 0.10	Somewhat limited Depth to bedrock Large stones Slope	0.46 0.38 0.37

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
4C: Weikert-----	40	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to bedrock	1.00
		Frost action	0.50	Slope	0.37	Droughty	1.00
		Slope	0.37	Unstable excavation walls	0.10	Large stones	0.20
						Gravel	0.01
5A: Botetourt-----	90	Somewhat limited Frost action	0.50	Very limited Depth to		Somewhat limited	
		Flooding	0.40	saturated zone	1.00	Depth to	0.19
		Depth to saturated zone	0.19	Unstable excavation walls	1.00	saturated zone	
6A: Botetourt-----	50	Somewhat limited Frost action	0.50	Very limited Depth to		Somewhat limited	
		Flooding	0.40	saturated zone	1.00	Depth to	0.19
		Depth to saturated zone	0.19	Unstable excavation walls	1.00	saturated zone	
Urban land-----	45	Not rated		Not rated		Not rated	
7A: Buckton-----	55	Very limited Flooding	1.00	Very limited Unstable excavation walls	1.00	Somewhat limited Flooding	0.60
		Low strength	1.00	Flooding	0.60		
		Frost action	0.50				

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7A: Weaver-----	30	Very limited					
		Flooding	1.00	Very limited		Somewhat limited	
		Low strength	0.78	Depth to	1.00	Depth to	0.75
		Low strength	0.75	saturated zone		saturated zone	
		Depth to		Unstable	1.00	Flooding	0.60
8F: Caneyville-----	60	saturated zone	0.75	excavation walls			
		Frost action	0.50	Flooding	0.60		
		Very limited					
		Slope	1.00	Very limited		Very limited	
Frederick-----	20	Low strength	1.00	Depth to hard	1.00	Slope	1.00
		Shrink-swell	0.94	bedrock		Depth to bedrock	0.84
		Depth to hard	0.84	Slope	1.00	Droughty	0.12
		bedrock		Too clayey	0.88		
		Frost action	0.50	Unstable	0.10		
Rock outcrop-----	15			excavation walls			
		Very limited					
		Slope	1.00	Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Too clayey	1.00		
Rock outcrop-----	15	Frost action	0.50	Unstable	0.10		
				excavation walls			
Rock outcrop-----	15	Not rated					
		Not rated		Not rated		Not rated	

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9C: Carbo, very rocky---	55	Very limited Shrink-swell Low strength Depth to hard bedrock Frost action Slope	1.00 1.00 0.84 0.50 0.04	Very limited Depth to hard bedrock Too clayey Unstable excavation walls Slope	1.00 1.00 1.00 0.10 0.04	Somewhat limited Depth to bedrock Droughty Slope	0.84 0.60 0.04
Opequon, very rocky-----	30	Very limited Depth to hard bedrock Shrink-swell Low strength Frost action Slope	1.00 1.00 1.00 0.50 0.04	Very limited Depth to hard bedrock Unstable excavation walls Slope	1.00 1.00 0.10 0.04	Very limited Depth to bedrock Droughty Slope	1.00 1.00 0.04
9E: Carbo, very rocky---	50	Very limited Slope Shrink-swell Low strength Depth to hard bedrock Frost action	1.00 1.00 1.00 0.84 0.50	Very limited Depth to hard bedrock Slope excavation walls	1.00 1.00 1.00 0.10	Very limited Slope Depth to bedrock Droughty	1.00 0.84 0.60

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9E: Opequon, very rocky-----	35	Very limited					
		Depth to hard	1.00	Very limited		Very limited	
		bedrock		Depth to hard	1.00	Depth to bedrock	1.00
		Slope	1.00	bedrock		Slope	1.00
		Shrink-swell	1.00	Slope	1.00	Droughty	1.00
10F: Carbo-----	55	Low strength	1.00	Unstable	0.10		
		Frost action	0.50	excavation walls			
		Very limited					
		Slope	1.00	Very limited		Very limited	
Opequon-----	25	Shrink-swell	1.00	Depth to hard	1.00	Slope	1.00
		Low strength	1.00	bedrock		Depth to bedrock	0.84
		Depth to hard	0.84	Slope	1.00	Droughty	0.60
		bedrock		Too clayey	1.00		
		Frost action	0.50	Unstable	0.10		
Opequon-----	25	Very limited		excavation walls			
		Depth to hard	1.00				
		bedrock		Very limited		Very limited	
		Slope	1.00	Depth to hard	1.00	Depth to bedrock	1.00
		Shrink-swell	1.00	bedrock		Slope	1.00
Rock outcrop-----	15	Low strength	1.00	Slope	1.00	Droughty	1.00
		Frost action	0.50	Unstable	0.10		
				excavation walls			
		Not rated					
				Not rated		Not rated	
11B: Cottonbend-----	85	Somewhat limited					
		Frost action	0.50	Very limited		Not limited	
				Unstable	1.00		
				excavation walls			



Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
11C: Cottonbend-----	85	Somewhat limited Frost action Slope Frost action	0.50 0.50	Very limited Unstable excavation walls Slope	1.00 0.37	Somewhat limited Slope	0.37
12A: Coursey, rarely flooded-----	80	Somewhat limited Low strength Frost action Flooding Depth to saturated zone	0.78 0.50 0.40 0.19	Very limited Depth to saturated zone Unstable excavation walls	1.00 0.10	Somewhat limited Depth to saturated zone	0.19
13B: Coursey-----	80	Somewhat limited Low strength Frost action Depth to saturated zone	0.78 0.50 0.19	Very limited Depth to saturated zone Unstable excavation walls	1.00 0.10	Somewhat limited Depth to saturated zone	0.19
14C: Dekalb, very stony-----	50	Somewhat limited Large stones Frost action Depth to hard bedrock Slope	0.58 0.50 0.29 0.04	Very limited Depth to hard bedrock Unstable excavation walls Large stones Slope	1.00 1.00 0.58 0.04	Somewhat limited Droughty Depth to bedrock Large stones Slope	0.60 0.29 0.16 0.04

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14C: Lehew, very stony---	20	Very limited Large stones Frost action Slope Depth to hard bedrock	1.00 0.50 0.04 0.03	Very limited Depth to hard bedrock Large stones Unstable excavation walls Slope	1.00 1.00 1.00 0.10 0.04	Very limited Large stones Droughty Slope Depth to bedrock	1.00 0.22 0.04 0.03
Berks, very stony---	15	Somewhat limited Frost action Depth to hard bedrock Slope	0.50 0.46 0.04	Very limited Depth to hard bedrock Unstable excavation walls Slope	1.00 1.00 0.10 0.04	Somewhat limited Depth to bedrock Large stones Slope	0.46 0.38 0.04
14E: Dekalb, very stony-----	50	Very limited Slope Large stones Frost action Depth to hard bedrock	1.00 0.58 0.50 0.29	Very limited Depth to hard bedrock Slope Unstable excavation walls Large stones	1.00 1.00 1.00 0.58	Very limited Slope Droughty Depth to bedrock Large stones	1.00 0.60 0.29 0.16
Lehew, very stony---	20	Very limited Slope Large stones Frost action Depth to hard bedrock	1.00 1.00 0.50 0.03	Very limited Depth to hard bedrock Slope Large stones Unstable excavation walls	1.00 1.00 1.00 0.10	Very limited Slope Large stones Droughty Depth to bedrock	1.00 1.00 0.22 0.03

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14E: Berks, very stony----	15	Very limited Slope	1.00	Very limited Depth to hard bedrock	1.00	Very limited Slope	1.00
		Frost action	0.50	Slope		Depth to bedrock	0.46
		Depth to hard bedrock	0.46	Unstable excavation walls	1.00	Large stones	0.38
14F: Dekalb, very stony-----	50	Very limited Slope					
		Large stones	1.00	Very limited Depth to hard bedrock	1.00	Very limited Slope	1.00
		Frost action	0.58	Slope		Droughty	0.60
		Depth to hard bedrock	0.50	Unstable excavation walls	1.00	Depth to bedrock	0.29
			0.29	Large stones	1.00	Large stones	0.16
Lehew, very stony----	20	Very limited Slope					
		Large stones	1.00	Very limited Depth to hard bedrock	1.00	Very limited Slope	1.00
		Frost action	1.00	Slope		Large stones	1.00
		Depth to hard bedrock	0.50	Large stones	1.00	Droughty	0.22
			0.03	Unstable excavation walls	1.00	Depth to bedrock	0.03
Berks, very stony----	15	Very limited Slope					
		Frost action	1.00	Very limited Depth to hard bedrock	1.00	Very limited Slope	1.00
		Depth to hard bedrock	0.50	Slope		Depth to bedrock	0.46
			0.46	Unstable excavation walls	1.00	Large stones	0.38
					0.10		

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15E: Dekalb, extremely stony-----	50	Very limited Slope Large stones Frost action Depth to hard bedrock	1.00 0.58 0.50 0.29	Very limited Depth to hard bedrock Slope Unstable excavation walls Large stones	1.00 1.00 1.00 0.58	Very limited Slope Droughty Depth to bedrock Large stones	1.00 0.60 0.29 0.16
Lehew, extremely stony-----	30	Very limited Slope Large stones Frost action Depth to hard bedrock	1.00 1.00 0.50 0.03	Very limited Depth to hard bedrock Slope Large stones Unstable excavation walls	1.00 1.00 1.00 0.10	Very limited Slope Large stones Droughty Depth to bedrock	1.00 1.00 0.22 0.03
Rock outcrop-----	15	Not rated		Not rated		Not rated	
15F: Dekalb, extremely stony-----	50	Very limited Slope Large stones Frost action Depth to hard bedrock	1.00 0.58 0.50 0.29	Very limited Depth to hard bedrock Slope Unstable excavation walls Large stones	1.00 1.00 1.00 0.58	Very limited Slope Droughty Depth to bedrock Large stones	1.00 0.60 0.29 0.16

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15F: Lehew, extremely stony-----	20	Very limited Slope Large stones Frost action Depth to hard bedrock	1.00 1.00 0.50 0.03	Very limited Depth to hard bedrock Slope Large stones Unstable excavation walls	1.00 1.00 1.00 0.10	Very limited Slope Large stones Droughty Depth to bedrock	1.00 1.00 0.22 0.03
Rock outcrop-----	15	Not rated		Not rated		Not rated	
16C: Dekalb, very stony-----	60	Somewhat limited Large stones Frost action Slope Depth to hard bedrock	0.58 0.50 0.37 0.29	Very limited Depth to hard bedrock Unstable excavation walls Large stones Slope	1.00 1.00 1.00 0.58 0.37	Somewhat limited Droughty Slope Depth to bedrock Large stones	0.60 0.37 0.29 0.16
Lily, very stony----	30	Somewhat limited Frost action Slope Depth to hard bedrock	0.50 0.37 0.29	Very limited Depth to hard bedrock Slope Unstable excavation walls	1.00 1.00 0.37 0.10	Somewhat limited Slope Depth to bedrock	0.37 0.29

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16E: Dekalb, very stony-----	50	Very limited					
		Slope	1.00	Very limited		Very limited	
		Large stones	0.58	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Droughty	0.60
		Depth to hard bedrock	0.29	Unstable excavation walls	1.00	Depth to bedrock	0.29
Lily, very stony----	40			Large stones	0.58	Large stones	0.16
		Very limited					
		Slope	1.00	Very limited		Very limited	
		Frost action	0.50	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.29	Slope	1.00	Depth to bedrock	0.29
17F: Dekalb, very stony-----	75			Unstable excavation walls	0.10		
		Very limited					
		Slope	1.00	Very limited		Very limited	
Lily, very stony----	20	Large stones	0.58	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Droughty	0.60
		Depth to hard bedrock	0.29	Unstable excavation walls	1.00	Depth to bedrock	0.29
				Large stones	0.58	Large stones	0.16
Lily, very stony----	20	Very limited					
		Slope	1.00	Very limited		Very limited	
		Frost action	0.50	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.29	Slope	1.00	Depth to bedrock	0.29
				Unstable excavation walls	0.10		

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
18A: Derroc-----	85	Very limited Flooding	1.00	Very limited Unstable	1.00	Very limited Flooding	1.00
		Frost action	0.50	excavation walls		Large stones	1.00
		Large stones	0.25	Flooding	0.80	Droughty	0.05
				Large stones	0.25		
19C: Edneytown-----	90	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37
		Frost action	0.50	Unstable excavation walls	0.10		
19D: Edneytown-----	90	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Frost action	0.50	Unstable excavation walls	0.10		
20C: Edneytown, very stony-----	60	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37
		Frost action	0.50	Unstable excavation walls	0.10		

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20C: Peaks, very stony----	35	Somewhat limited Depth to hard bedrock	0.54	Very limited Depth to hard bedrock	1.00	Very limited Droughty Depth to bedrock	1.00
		Frost action Slope	0.50 0.37	Unstable excavation walls Depth to soft bedrock Slope	1.00 0.95 0.37	Slope Gravel	0.95 0.03
20E: Edneytown, very stony-----	60	Very limited Slope Frost action	1.00 0.50	Very limited Slope Unstable excavation walls	1.00 0.10	Very limited Slope	1.00
Peaks, very stony----	35	Very limited Slope Depth to hard bedrock Frost action	1.00 0.54 0.50	Very limited Depth to hard bedrock Slope Unstable excavation walls Depth to soft bedrock	1.00 1.00 1.00 0.95	Very limited Slope Droughty Depth to bedrock Gravel	1.00 1.00 0.95 0.03
20F: Edneytown, very stony-----	60	Very limited Slope Frost action	1.00 0.50	Very limited Slope Unstable excavation walls	1.00 0.10	Very limited Slope	1.00



Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20F: Peaks, very stony----	35	Very limited Slope Depth to hard bedrock Frost action	1.00 0.54 0.50	Very limited Depth to hard bedrock Slope Unstable excavation walls Depth to soft bedrock	1.00 1.00 1.00 1.00 0.95	Very limited Slope Droughty Depth to bedrock Gravel	1.00 1.00 0.95 0.03
21B: Escatawba-----	80	Somewhat limited Frost action	0.50	Very limited Depth to saturated zone Unstable excavation walls	1.00 0.10	Not limited	
21C: Escatawba-----	80	Somewhat limited Frost action Slope	0.50 0.37	Very limited Depth to saturated zone Slope Unstable excavation walls	1.00 0.37 0.10	Somewhat limited Slope	0.37
22B: Frederick-----	85	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Very limited Too clayey Unstable excavation walls	1.00 0.10	Not limited	

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
22C: Frederick-----	80	Very limited					
		Low strength	1.00	Very limited		Somewhat limited	
		Shrink-swell	0.50	Too clayey	1.00	Slope	0.37
		Frost action	0.50	Unstable	0.37		
22D: Frederick-----	80	Slope	0.37	excavation walls	0.10		
		Very limited				Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
23E: Frederick-----	65	Low strength	1.00	Too clayey	1.00		
		Shrink-swell	0.50	Unstable	0.10		
		Frost action	0.50	excavation walls			
Caneyville-----	30	Very limited				Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	1.00	Depth to bedrock	0.84
		Shrink-swell	0.94	Unstable	0.10	Droughty	0.12
		Depth to hard bedrock	0.84	Too clayey	0.88		
		Frost action	0.50	Unstable	0.10		
				excavation walls			

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
24C: Frederick, very rocky-----	45	Very limited Low strength Shrink-swell Frost action Slope	1.00 0.50 0.50 0.04	Very limited Too clayey Slope Unstable excavation walls	1.00 0.04 0.10	Somewhat limited Slope	0.04
Caneyville, very rocky-----	35	Very limited Low strength Shrink-swell Depth to hard bedrock Frost action Slope	1.00 0.94 0.84 0.50 0.04	Very limited Depth to hard bedrock Too clayey Unstable excavation walls Slope	1.00 1.00 0.88 0.10 0.04	Somewhat limited Depth to bedrock Droughty Slope	0.84 0.12 0.04
24E: Frederick, very rocky-----	40	Very limited Slope Low strength Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Slope Too clayey Unstable excavation walls	1.00 1.00 0.10	Very limited Slope	1.00
Caneyville, very rocky-----	38	Very limited Slope Low strength Shrink-swell Depth to hard bedrock Frost action	1.00 1.00 0.94 0.84 0.50	Very limited Depth to hard bedrock Slope Too clayey Unstable excavation walls	1.00 1.00 1.00 0.88 0.10	Very limited Slope Depth to bedrock Droughty	1.00 0.84 0.12

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25C: Frederick-----	60	Very limited Low strength Shrink-swell Frost action Slope	1.00 0.50 0.50 0.37	Very limited Too clayey Slope Unstable excavation walls	1.00 0.37 0.10	Somewhat limited Slope Gravel	0.37 0.01
Watahala-----	30	Somewhat limited Frost action Slope	0.50 0.37	Very limited Unstable excavation walls Too clayey Slope	1.00 0.50 0.37	Somewhat limited Gravel Slope Droughty	0.97 0.37 0.05
25D: Frederick-----	45	Very limited Slope Low strength Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Slope Too clayey Unstable excavation walls	1.00 1.00 0.10	Very limited Slope Gravel	1.00 0.01
Watahala-----	35	Very limited Slope Frost action	1.00 0.50	Very limited Slope Unstable excavation walls Too clayey	1.00 1.00 0.50	Very limited Slope Gravel Droughty	1.00 0.97 0.05
25E: Frederick-----	50	Very limited Slope Low strength Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Slope Too clayey excavation walls	1.00 1.00 0.10	Very limited Slope Gravel	1.00 0.01

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25E: Watahala-----	40	Very limited Slope Frost action	1.00 0.50	Very limited Slope Unstable excavation walls Too clayey	1.00 1.00 0.50	Very limited Slope Gravel Droughty	1.00 0.97 0.05
26A: Gladehill-----	85	Very limited Flooding Frost action	1.00 0.50	Somewhat limited Flooding Unstable excavation walls	0.60 0.10	Somewhat limited Flooding	0.60
27B: Groseclose-----	80	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Too clayey Unstable excavation walls	0.88 0.10	Not limited	
27C: Groseclose-----	80	Very limited Low strength Shrink-swell Frost action Slope	1.00 0.50 0.37	Somewhat limited Too clayey Slope Unstable excavation walls	0.88 0.37 0.10	Somewhat limited Slope	0.37
27D: Groseclose-----	80	Very limited Slope Low strength Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Slope Too clayey Unstable excavation walls	1.00 0.88 0.10	Very limited Slope	1.00

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
28E: Groseclose-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Low strength	1.00	Too clayey	0.88		
		Shrink-swell	0.50	Unstable	0.10		
		Frost action	0.50	excavation walls			
Needmore-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Low strength	1.00	Too clayey	0.50	Depth to bedrock	0.20
		Shrink-swell	0.50	Depth to soft bedrock	0.20		
		Frost action	0.50	Unstable excavation walls	0.10		
29C: Groseclose-----	35	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Too clayey Unstable excavation walls	0.88 0.10	Not limited	
Needmore-----	30	Very limited Low strength Shrink-swell Frost action Slope	1.00 0.50 0.50 0.04	Somewhat limited Too clayey Depth to soft bedrock Unstable excavation walls Slope	0.50 0.20 0.10 0.04	Somewhat limited Depth to bedrock Slope	0.20 0.04
Urban land-----	25	Not rated		Not rated		Not rated	

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
30A: Holly-----	50	Very limited Ponding Depth to saturated zone Frost action Flooding	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Flooding Unstable excavation walls	1.00 1.00 0.60 0.10	Very limited Ponding Depth to saturated zone Flooding	1.00 1.00 0.60
Orrville-----	45	Very limited Ponding Depth to saturated zone Frost action Flooding	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Unstable excavation walls Flooding	1.00 1.00 1.00 0.60	Very limited Ponding Depth to saturated zone Flooding	1.00 1.00 0.60
31A: Ingledove-----	85	Somewhat limited Frost action Flooding	0.50 0.40	Somewhat limited Unstable excavation walls	0.10	Somewhat limited Large stones	0.03
32A: Irongate-----	85	Very limited Frost action Flooding Depth to saturated zone	1.00 1.00 0.39 9	Very limited Depth to saturated zone Unstable excavation walls Flooding	1.00 1.00 1.00 0.60	Somewhat limited Flooding Depth to saturated zone	0.60 0.39

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33C: Litz-----	35	Somewhat limited					
		Frost action	0.50	Very limited		Somewhat limited	
		Slope	0.37	Depth to hard bedrock	1.00	Slope	0.37
		Depth to hard bedrock	0.01	Slope	0.37	Droughty	0.36
				Depth to soft bedrock	0.29	Depth to bedrock	0.29
				Unstable excavation walls	0.03	Large stones	0.03
Chiswell-----	30	Somewhat limited					
		Depth to soft bedrock	1.00	Very limited		Very limited	
		Frost action	0.50	Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Slope	0.37	Slope	0.37	Droughty	0.98
				Unstable excavation walls	0.37	Slope	0.37
					0.10	Large stones	0.11
Groseclose-----	20	Very limited					
		Low strength	1.00	Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Too clayey	0.88	Slope	0.37
		Frost action	0.50	Slope	0.37		
		Slope	0.37	Unstable excavation walls	0.10		
33E: Litz-----	35	Very limited					
		Slope	1.00	Very limited		Very limited	
		Frost action	0.50	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.01	Slope	1.00	Droughty	0.36
				Depth to soft bedrock	0.29	Depth to bedrock	0.29
				Unstable excavation walls	0.03	Large stones	0.03
					0.10		



Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33E: Chiswell-----	25	Very limited					
		Slope	1.00	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
				Slope	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	0.10	Droughty Large stones	0.98 0.11
Groseclose-----	25	Very limited					
		Slope	1.00	Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Too clayey	0.88		
		Frost action	0.50	Unstable excavation walls	0.10		
33F: Litz-----	35	Very limited					
		Slope	1.00	Very limited		Very limited	
		Frost action	0.50	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.01	Slope	1.00	Droughty	0.36
				Depth to soft bedrock	0.29	Depth to bedrock	0.29
Chiswell-----	30			Unstable excavation walls	0.10	Large stones	0.03
		Very limited					
		Slope	1.00	Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
				Slope	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	0.10	Droughty	0.98
						Large stones	0.11

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33F: Groseclose-----	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Low strength	1.00	Too clayey	0.88		
		Shrink-swell	0.50	Unstable	0.10		
		Frost action	0.50	excavation walls			
34C: Litz, very stony----	55	Somewhat limited Frost action					
		Slope	0.50	Very limited		Somewhat limited	
		Depth to hard bedrock	0.04	Depth to hard bedrock	1.00	Droughty Depth to bedrock	0.36 0.29
			0.01	Depth to soft bedrock	0.29	Slope	0.04
				Unstable	0.10	Large stones	0.03
				excavation walls			
				Slope	0.04		
Needmore, very stony-----	35	Very limited Low strength					
		Shrink-swell	1.00	Somewhat limited		Somewhat limited	
		Frost action	0.50	Too clayey	0.50	Depth to bedrock	0.20
		Slope	0.50	Depth to soft bedrock	0.04	Slope	0.04
			0.04	Unstable	0.20		
				excavation walls	0.10		
				Slope	0.04		

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34E: Litz, very stony----	55	Very limited Slope	1.00	Very limited Depth to hard bedrock	1.00	Very limited Slope	1.00
		Frost action	0.50			Droughty	0.36
		Depth to hard bedrock	0.01	Slope	1.00	Depth to bedrock	0.29
				Depth to soft bedrock	0.29	Large stones	0.03
				Unstable excavation walls	0.10		
Needmore, very stony-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Low strength	1.00	Too clayey	0.50	Depth to bedrock	0.20
		Shrink-swell	0.50	Depth to soft bedrock	0.20		
		Frost action	0.50	Unstable excavation walls	0.10		
34F: Litz, very stony----	55	Very limited Slope	1.00	Very limited Depth to hard bedrock	1.00	Very limited Slope	1.00
		Frost action	0.50			Droughty	0.36
		Depth to hard bedrock	0.01	Slope	1.00	Depth to bedrock	0.29
				Depth to soft bedrock	0.29	Large stones	0.03
				Unstable excavation walls	0.10		

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34F: Needmore, very stony-----	35	Very limited					
		Slope	1.00	Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Too clayey	0.50	Depth to bedrock	0.20
		Frost action	0.50	Depth to soft bedrock	0.20		
				Unstable	0.10		
35C: Lodi-----	40			excavation walls			
		Very limited					
		Low strength					
		Shrink-swell	1.00	Very limited		Somewhat limited	
		Frost action	0.50	Unstable	1.00	Slope	0.37
		Slope	0.37	excavation walls			
McClung-----	35	Somewhat limited		Too clayey	0.50		
		Frost action		Slope	0.37		
		Slope					
				Somewhat limited		Somewhat limited	
			0.50	Slope	0.37	Slope	0.37
			0.37	Unstable	0.10		
Lily-----	20			excavation walls			
		Somewhat limited					
		Frost action		Very limited		Somewhat limited	
		Slope	0.50	Depth to hard	1.00	Slope	0.37
		Depth to hard bedrock	0.37	bedrock		Depth to bedrock	0.29
			0.29	Slope	0.37		
				Unstable	0.10		
				excavation walls			

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
35E: Lodi-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Low strength	1.00	Unstable	1.00		
		Shrink-swell	0.50	excavation walls			
		Frost action	0.50	Too clayey	0.50		
McClung-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Frost action	0.50	Unstable	0.10		
				excavation walls			
Lily-----	25	Very limited Slope	1.00	Very limited Depth to hard	1.00	Very limited Slope	1.00
		Frost action	0.50	bedrock		Depth to bedrock	0.29
		Depth to hard bedrock	0.29	Slope	1.00		
				Unstable	0.10		
				excavation walls			
36C: Lostcove, extremely stony-----	80	Very limited Large stones	1.00	Very limited Large stones	1.00	Very limited Large stones	1.00
		Frost action	0.50	Slope	0.37	Slope	0.37
		Slope	0.37	Unstable	0.10	Droughty	0.24
				excavation walls		Gravel	0.01
				Depth to saturated zone	0.01		

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
37E: Lostcove, very stony-----	80	Very limited Slope Large stones Frost action	1.00 1.00 0.50	Very limited Slope Large stones Unstable excavation walls Depth to saturated zone	1.00 1.00 0.10 0.01	Very limited Slope Large stones Droughty Gravel	1.00 1.00 0.24 0.01
37F: Lostcove, very stony-----	80	Very limited Slope Large stones Frost action	1.00 1.00 0.50	Very limited Slope Large stones Unstable excavation walls Depth to saturated zone	1.00 1.00 0.10 0.01	Very limited Slope Large stones Droughty Gravel	1.00 1.00 0.24 0.01
38E: Marbleyard, extremely stony----	70	Very limited Slope Frost action Large stones Depth to hard bedrock	1.00 0.50 0.30 0.06	Very limited Depth to hard bedrock Slope Unstable excavation walls Large stones	1.00 1.00 1.00 0.30	Very limited Slope Large stones Droughty Depth to bedrock	1.00 1.00 1.00 0.06
Rock outcrop-----	15	Not rated		Not rated		Not rated	

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
39F: Marbleyard, extremely stony----	45	Very limited Slope	1.00	Very limited Depth to hard bedrock	1.00	Very limited Slope	1.00
		Frost action	0.50	Slope		Large stones	1.00
		Large stones	0.30	Unstable	1.00	Droughty	1.00
		Depth to hard bedrock	0.06	excavation walls	1.00	Depth to bedrock	0.06
				Large stones	0.30		
Sherando, extremely stony-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Frost action	0.50	Unstable excavation walls	1.00	Droughty Gravel	0.94 0.88
Rock outcrop-----	20	Not rated		Not rated		Not rated	
39G: Marbleyard, extremely stony----	45	Very limited Slope	1.00	Very limited Depth to hard bedrock	1.00	Very limited Slope	1.00
		Frost action	0.50	Slope		Large stones	1.00
		Large stones	0.30	Unstable	1.00	Droughty	1.00
		Depth to hard bedrock	0.06	excavation walls	1.00	Depth to bedrock	0.06
				Large stones	0.30		
Sherando, extremely stony-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Frost action	0.50	Unstable excavation walls	1.00	Droughty Gravel	0.94 0.88

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
39G: Rock outcrop-----	20	Not rated		Not rated		Not rated	
40A: Maurertown-----	50	Very limited Ponding Depth to saturated zone Shrink-swell Frost action Low strength	1.00 1.00 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey Unstable excavation walls	1.00 1.00 0.28 0.10	Very limited Ponding Depth to saturated zone	1.00 1.00
Toms-----	45	Very limited Ponding Depth to saturated zone Frost action Low strength Shrink-swell	1.00 1.00 1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Too clayey Unstable excavation walls	1.00 1.00 0.12 0.10	Very limited Ponding Depth to saturated zone	1.00 1.00
41C: McCamy, very stony-----	85	Somewhat limited Frost action Depth to hard bedrock Slope	0.50 0.35 0.04	Very limited Depth to hard bedrock Unstable excavation walls Slope	1.00 1.00 1.00 0.04	Somewhat limited Depth to bedrock Droughty Slope	0.35 0.29 0.04



Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
42F: McClung, very stony-----	40						
		Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Frost action	0.50	Unstable excavation walls	0.10		
Caneyville, very stony-----	30	Very limited Slope	1.00	Very limited Depth to hard bedrock	1.00	Very limited Slope	1.00
		Low strength	1.00	Slope	1.00	Depth to bedrock	0.84
		Shrink-swell	0.94	Too clayey	0.88	Droughty	0.12
		Depth to hard bedrock	0.84	Unstable excavation walls	0.10		
		Frost action	0.50				
Dekalb, very stony-----	25	Very limited Slope	1.00	Very limited Depth to hard bedrock	1.00	Very limited Slope	1.00
		Large stones	0.58	Slope	1.00	Droughty	0.60
		Frost action	0.50	Unstable excavation walls	1.00	Depth to bedrock	0.29
		Depth to hard bedrock	0.29	Large stones	0.58	Large stones	0.16
43C: Needmore-----	60	Very limited Low strength	1.00	Somewhat limited Too clayey	0.50	Somewhat limited Depth to bedrock	0.20
		Shrink-swell	0.50	Depth to soft bedrock	0.20	Slope	0.04
		Frost action	0.50	Unstable excavation walls	0.10		
		Slope	0.04	Slope	0.04		

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
43C: Opequon-----	30	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to bedrock	1.00
		Shrink-swell	1.00	Unstable	0.10	Droughty	1.00
		Low strength	1.00	excavation walls		Slope	0.04
		Frost action	0.50	Slope	0.04		
		Slope	0.04				
43E: Needmore-----	55	Very limited Slope		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Too clayey	0.50	Depth to bedrock	0.20
		Frost action	0.50	Depth to soft bedrock	0.20		
				Unstable	0.10		
				excavation walls			
Opequon-----	35	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Unstable	0.10	Droughty	1.00
		Low strength	1.00	excavation walls			
		Frost action	0.50				

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
43F: Needmore-----	50	Very limited					
		Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Low strength	1.00	Too clayey	0.50	Depth to bedrock	0.20
		Shrink-swell	0.50	Depth to soft bedrock	0.20		
		Frost action	0.50	Unstable excavation walls	0.10		
Opequon-----	40	Very limited					
		Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to bedrock Slope	1.00
		Slope	1.00	Slope	1.00	Droughty	1.00
		Shrink-swell	1.00	Unstable	0.10		
		Low strength	1.00	excavation walls			
44E: Needmore-----	70	Frost action	0.50				
		Very limited					
		Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Low strength	1.00	Too clayey	0.50	Depth to bedrock	0.20
		Shrink-swell	0.50	Depth to soft bedrock	0.20		
Urban land-----	25	Frost action	0.50	Unstable excavation walls	0.10		
		Not rated		Not rated		Not rated	

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
45B: Nicelytown-----	80	Somewhat limited Low strength Depth to saturated zone Frost action	0.78 0.75 0.50	Very limited Depth to saturated zone Unstable excavation walls	1.00 0.10	Somewhat limited Depth to saturated zone	0.75
46B: Nicelytown-----	50	Somewhat limited Low strength Depth to saturated zone Frost action	0.78 0.75 0.50	Very limited Depth to saturated zone Unstable excavation walls	1.00 0.10	Somewhat limited Depth to saturated zone	0.75
Urban land-----	45	Not rated		Not rated		Not rated	
47C: Oriskany, extremely stony-----	65	Somewhat limited Large stones Slope Frost action	0.55 0.37 0.50	Somewhat limited Large stones Slope Unstable excavation walls	0.55 0.37 0.10	Somewhat limited Large stones Slope	0.99 0.37

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47C: Laidig, extremely stony-----	25	Somewhat limited					
		Frost action	0.50	Very limited		Somewhat limited	
		Slope	0.37	Depth to thick cemented pan	1.00	Slope	0.37
		Depth to thick cemented pan	0.29	Depth to saturated zone	0.99	Depth to cemented pan	0.29
				Slope	0.37	Large stones	0.16
				Depth to thin cemented pan	0.29		
				Unstable excavation walls	0.10		
47E: Oriskany, extremely stony-----	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.55	Large stones	0.55	Large stones	0.99
		Frost action	0.50	Unstable excavation walls	0.10		
Laidig, extremely stony-----	30	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to thick cemented pan	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Depth to cemented pan	0.29
		Depth to thick cemented pan	0.29	Depth to saturated zone	0.99	Large stones	0.16
				Depth to thin cemented pan	0.29		
				Unstable excavation walls	0.10		

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
48F: Oriskany, extremely stony-----	80	Very limited Slope Large stones Frost action	1.00 0.55 0.50	Very limited Slope Large stones Unstable excavation walls	1.00 0.55 0.10	Very limited Slope Large stones	1.00 0.99
49C: Oriskany, extremely stony-----	55	Somewhat limited Large stones Slope Frost action	0.55 0.37 0.50	Somewhat limited Large stones Slope Unstable excavation walls	0.55 0.37 0.10	Somewhat limited Large stones Slope	0.99 0.37
Murrill, extremely stony-----	35	Very limited Low strength Frost action Slope	1.00 0.50 0.37	Somewhat limited Slope Too clayey Unstable excavation walls	0.37 0.12 0.10	Very limited Large stones Slope	1.00 0.37
49E: Oriskany, extremely stony-----	55	Very limited Slope Large stones Frost action	1.00 0.55 0.50	Very limited Slope Large stones Unstable excavation walls	1.00 0.55 0.10	Very limited Slope Large stones	1.00 0.99

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
49E: Murrill, extremely stony-----	35						
		Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Low strength Frost action	1.00 0.50	Too clayey Unstable excavation walls	0.12 0.10	Large stones	1.00
49F: Oriskany, extremely stony-----	65						
		Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones Frost action	0.55 0.50	Large stones Unstable excavation walls	0.55 0.10	Large stones	0.99
Murrill, extremely stony-----	25						
		Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Low strength Frost action	1.00 0.50	Too clayey Unstable excavation walls	0.12 0.10	Large stones	1.00
50E: Peaks, very rocky----	55						
		Very limited Slope	1.00	Very limited Depth to hard bedrock	1.00	Very limited Slope	1.00
		Depth to hard bedrock Frost action	0.54 0.50	Slope Unstable excavation walls	1.00 1.00	Droughty Depth to bedrock	1.00 0.95 0.03

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
50E: Edneytown, very rocky-----	40	Very limited Slope Frost action	1.00 0.50	Very limited Slope Unstable excavation walls	1.00 0.10	Very limited Slope	1.00
50F: Peaks, very rocky---	55	Very limited Slope Depth to hard bedrock Frost action	1.00 0.54 0.50	Very limited Depth to hard bedrock Slope Unstable excavation walls Depth to soft bedrock	1.00 1.00 1.00 0.95	Very limited Slope Droughty Depth to bedrock Gravel	1.00 1.00 0.95 0.03
Edneytown, very rocky-----	40	Very limited Slope Frost action	1.00 0.50	Very limited Slope Unstable excavation walls	1.00 0.10	Very limited Slope	1.00
51A: Philo-----	75	Very limited Flooding Frost action Depth to saturated zone	1.00 0.50 0.28	Very limited Depth to saturated zone Flooding Unstable excavation walls	1.00 1.00 0.60 0.10	Somewhat limited Flooding Depth to saturated zone	0.60 0.28



Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
52C: Pignut, very stony-----	50	Somewhat limited					
		Frost action	0.50	Very limited		Somewhat limited	
		Low strength	0.22	Depth to hard bedrock	1.00	Slope	0.04
		Slope	0.04	Unstable	0.10	Depth to bedrock	0.03
		Depth to hard bedrock	0.03	excavation walls Slope	0.04		
Myersville, very stony-----	40	Very limited					
		Low strength	1.00	Somewhat limited		Somewhat limited	
		Frost action	0.50	Unstable	0.10	Slope	0.04
		Slope	0.04	excavation walls Slope	0.04		
53E: Pignut, very stony-----	90	Very limited					
		Slope	1.00	Very limited		Very limited	
		Frost action	0.50	Depth to hard bedrock	1.00	Slope	1.00
		Low strength	0.22	Slope	1.00	Depth to bedrock	0.03
		Depth to hard bedrock	0.03	Unstable excavation walls	0.10		
53F: Pignut, very stony-----	90	Very limited					
		Slope	1.00	Very limited		Very limited	
		Frost action	0.50	Depth to hard bedrock	1.00	Slope	1.00
		Low strength	0.22	Slope	1.00	Depth to bedrock	0.03
		Depth to hard bedrock	0.03	Unstable excavation walls	0.10		

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
54: Pits-----	50	Not rated					
Dumps-----	45	Not rated					
55A: Pope-----	90	Very limited Flooding	1.00	Very limited Unstable excavation walls	1.00	Somewhat limited Flooding	0.60
		Frost action	0.50	Flooding	0.60		
56G: Rock outcrop-----	60	Not rated					
Opequon-----	25	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Unstable	0.10	Droughty	1.00
		Low strength	1.00	excavation walls			
		Frost action	0.50				
57A: Sensabaugh-----	40	Very limited Flooding	1.00	Very limited Unstable excavation walls	1.00	Somewhat limited Flooding	0.60
		Frost action	0.50	Flooding	0.60		

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
57A: Lobdell-----	30	Very limited Flooding Depth to saturated zone Frost action	1.00 0.75 0.50	Very limited Depth to saturated zone Flooding Unstable excavation walls	1.00 0.60 0.10	Somewhat limited Depth to saturated zone Flooding	0.75 0.60
Derroc-----	20	Very limited Flooding Frost action Large stones	1.00 0.50 0.25	Very limited Unstable excavation walls Flooding Large stones	1.00 0.60 0.25	Very limited Large stones Flooding Droughty	1.00 0.60 0.05
58B: Shottower-----	90	Somewhat limited Shrink-swell Frost action Low strength	0.50 0.50 0.08	Very limited Unstable excavation walls Too clayey	1.00 0.50	Not limited	
58C: Shottower-----	90	Somewhat limited Shrink-swell Frost action Slope Low strength	0.50 0.50 0.37 0.08	Very limited Unstable excavation walls Too clayey Slope	1.00 0.50 0.37	Somewhat limited Slope	0.37
58D: Shottower-----	85	Very limited Slope Shrink-swell Frost action Low strength	1.00 0.50 0.50 0.08	Very limited Slope Unstable excavation walls Too clayey	1.00 1.00 0.50	Very limited Slope	1.00

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
59E: Shottower-----	85	Very limited Slope Shrink-swell Frost action	1.00 0.50 0.50	Very limited Slope Unstable excavation walls Too clayey	1.00 1.00 0.50	Very limited Slope Large stones	1.00 0.32
60C: Shottower-----	50	Somewhat limited Shrink-swell Frost action Low strength	0.50 0.50 0.08	Very limited Unstable excavation walls Too clayey	1.00 0.50	Not limited	
Urban land-----	45	Not rated		Not rated		Not rated	
61B: Slabtown-----	80	Very limited Low strength Shrink-swell Frost action Depth to saturated zone	1.00 0.50 0.50 0.03	Very limited Depth to saturated zone Too clayey Unstable excavation walls	1.00 1.00 0.50 0.10	Somewhat limited Depth to saturated zone	0.03
61C: Slabtown-----	80	Very limited Low strength Shrink-swell Frost action Slope Depth to saturated zone	1.00 0.50 0.50 0.37 0.50	Very limited Depth to saturated zone Too clayey Slope Unstable excavation walls	1.00 1.00 0.50 0.37 0.10	Somewhat limited Slope Depth to saturated zone	0.37 0.03

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
62: Slickens-----	100	Not rated		Not rated		Not rated	
63E: Stumptown, extremely stony----	40	Very limited Slope Large stones Frost action Depth to hard bedrock	1.00 0.77 0.50 0.20	Very limited Depth to hard bedrock Slope Large stones Unstable excavation walls	1.00 1.00 1.00 0.77 0.10	Very limited Slope Gravel Droughty Depth to bedrock	1.00 0.95 0.81 0.20
Marbleyard, extremely stony----	35	Very limited Slope Frost action Large stones Depth to hard bedrock	1.00 0.50 0.30 0.06	Very limited Depth to hard bedrock Slope Unstable excavation walls Large stones	1.00 1.00 1.00 1.00 0.30	Very limited Slope Large stones Droughty Depth to bedrock	1.00 1.00 1.00 0.06
Rock outcrop-----	15	Not rated		Not rated		Not rated	
63F: Stumptown, extremely stony----	40	Very limited Slope Large stones Frost action Depth to hard bedrock	1.00 0.77 0.50 0.20	Very limited Depth to hard bedrock Slope Large stones Unstable excavation walls	1.00 1.00 1.00 0.77 0.10	Very limited Slope Gravel Droughty Depth to bedrock	1.00 0.95 0.81 0.20

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
63F: Marbleyard, extremely stony----	35	Very limited					
		Slope	1.00	Very limited		Very limited	
		Frost action	0.50	Depth to hard bedrock	1.00	Slope	1.00
		Large stones	0.30	Slope		Large stones	1.00
		Depth to hard bedrock	0.06	Unstable excavation walls	1.00	Droughty	1.00
Rock outcrop-----	15			Large stones	0.30	Depth to bedrock	0.06
		Not rated		Not rated		Not rated	
63G: Stumptown, extremely stony----	40	Very limited				Very limited	
		Slope	1.00	Very limited		Very limited	
		Large stones	0.77	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope		Gravel	0.95
		Depth to hard bedrock	0.20	Large stones	1.00	Droughty	0.81
Marbleyard, extremely stony----	35			Unstable excavation walls	0.77	Depth to bedrock	0.20
					0.10		
Marbleyard, extremely stony----	35	Very limited				Very limited	
		Slope	1.00	Very limited		Very limited	
		Frost action	0.50	Depth to hard bedrock	1.00	Slope	1.00
		Large stones	0.30	Slope		Large stones	1.00
		Depth to hard bedrock	0.06	Unstable excavation walls	1.00	Droughty	1.00
Rock outcrop-----	15			Large stones	0.30	Depth to bedrock	0.06
		Not rated		Not rated		Not rated	

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
64E: Stumptown, very stony-----	50	Very limited					
		Slope	1.00	Very limited		Very limited	
		Large stones	0.77	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope		Gravel	0.95
		Depth to hard bedrock	0.20	Large stones	1.00	Droughty	0.81
Sylco, very stony---	45			Unstable	0.77	Depth to bedrock	0.20
				excavation walls	0.10		
		Very limited					
		Slope	1.00	Very limited		Very limited	
		Depth to hard bedrock	0.54	Depth to hard bedrock	1.00	Slope	1.00
64F: Stumptown, very stony-----	50	Frost action	0.50	Slope		Droughty	0.71
		Large stones	0.17	Large stones	1.00	Large stones	0.61
				Unstable	0.17	Depth to bedrock	0.54
				excavation walls	0.10		
64F: Stumptown, very stony-----	50	Very limited					
		Slope	1.00	Very limited		Very limited	
		Large stones	0.77	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope		Gravel	0.95
		Depth to hard bedrock	0.20	Large stones	1.00	Droughty	0.81
64F: Stumptown, very stony-----	50			Unstable	0.77	Depth to bedrock	0.20
				excavation walls	0.10		

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
64F: Sylco, very stony---	35	Very limited Slope Depth to hard bedrock Frost action Large stones	1.00 0.54 0.50 0.17	Very limited Depth to hard bedrock Slope Large stones Unstable excavation walls	1.00 1.00 0.17 0.10	Very limited Slope Droughty Large stones Depth to bedrock	1.00 0.71 0.61 0.54
65E: Sylco, very rocky---	45	Very limited Slope Depth to hard bedrock Frost action Large stones	1.00 0.54 0.50 0.17	Very limited Depth to hard bedrock Slope Large stones Unstable excavation walls	1.00 1.00 0.17 0.10	Very limited Slope Droughty Large stones Depth to bedrock	1.00 0.71 0.61 0.54
Marbleyard, very rocky-----	40	Very limited Slope Frost action Large stones Depth to hard bedrock	1.00 0.50 0.30 0.06	Very limited Depth to hard bedrock Slope Unstable excavation walls Large stones	1.00 1.00 1.00 0.30	Very limited Slope Large stones Droughty Depth to bedrock	1.00 1.00 1.00 0.06



Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65F: Sylco, very rocky---	50	Very limited Slope Depth to hard bedrock Frost action Large stones	1.00 0.54 0.50 0.17	Very limited Depth to hard bedrock Slope Large stones Unstable excavation walls	1.00 1.00 0.17 0.10	Very limited Slope Droughty Large stones Depth to bedrock	1.00 0.71 0.61 0.54
Marbleyard, very rocky-----	45	Very limited Slope Frost action Large stones Depth to hard bedrock	1.00 0.50 0.30 0.06	Very limited Depth to hard bedrock Slope Unstable excavation walls Large stones	1.00 1.00 1.00 0.30	Very limited Slope Large stones Droughty Depth to bedrock	1.00 1.00 1.00 0.06
65G: Sylco, very rocky---	50	Very limited Slope Depth to hard bedrock Frost action Large stones	1.00 0.54 0.50 0.17	Very limited Depth to hard bedrock Slope Large stones Unstable excavation walls	1.00 1.00 1.00 0.10	Very limited Slope Droughty Large stones Depth to bedrock	1.00 0.71 0.61 0.54

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65G: Marbleyard, very rocky-----	35	Very limited Slope Frost action Large stones Depth to hard bedrock	1.00 0.50 0.30 0.06	Very limited Depth to hard bedrock Slope Unstable excavation walls Large stones	1.00 1.00 1.00 0.30	Very limited Slope Large stones Droughty Depth to bedrock	1.00 1.00 1.00 0.06
66C: Thunder, very bouldery-----	50	Very limited Large stones Frost action Slope	1.00 0.50 0.37	Very limited Unstable excavation walls Large stones Slope	1.00 1.00 0.37	Very limited Large stones Slope	1.00 0.37
Saunook, very bouldery-----	30	Somewhat limited Frost action Slope	0.50 0.37	Very limited Unstable excavation walls Slope	1.00 0.37	Somewhat limited Gravel Slope Large stones	0.40 0.37 0.01
66E: Thunder, very bouldery-----	50	Very limited Slope Large stones Frost action	1.00 1.00 0.50	Very limited Slope Unstable excavation walls Large stones	1.00 1.00 1.00	Very limited Slope Large stones	1.00 1.00

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
66E: Saunook, very bouldery-----	30	Very limited Slope Frost action	1.00 0.50	Very limited Slope Unstable excavation walls	1.00 1.00	Very limited Slope Gravel Large stones	1.00 0.40 0.01
66F: Thunder, very bouldery-----	50	Very limited Slope Large stones Frost action	1.00 1.00 0.50	Very limited Slope Unstable excavation walls Large stones	1.00 1.00 1.00	Very limited Slope Large stones	1.00 1.00
Saunook, very bouldery-----	30	Very limited Slope Frost action	1.00 0.50	Very limited Slope Unstable excavation walls	1.00 1.00	Very limited Slope Gravel Large stones	1.00 0.40 0.01
67C: Tumbling-----	50	Somewhat limited Slope Frost action Low strength	0.37 0.50 0.08	Somewhat limited Slope Too clayey Unstable excavation walls	0.37 0.12 0.10	Somewhat limited Slope	0.37
Vanella-----	40	Somewhat limited Slope Frost action	0.37 0.50	Somewhat limited Slope Unstable excavation walls	0.37 0.10	Somewhat limited Slope Large stones	0.37 0.03

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
67D: Tumbling-----	50	Very limited Slope Frost action Low strength	1.00 0.50 0.08	Very limited Slope Too clayey Unstable excavation walls	1.00 0.12 0.10	Very limited Slope	1.00
Vanella-----	40	Very limited Slope Frost action	1.00 0.50	Very limited Slope Unstable excavation walls	1.00 0.10	Very limited Slope Large stones	1.00 0.03
67E: Tumbling-----	50	Very limited Slope Frost action Low strength	1.00 0.50 0.08	Very limited Slope Too clayey Unstable excavation walls	1.00 0.12 0.10	Very limited Slope	1.00
Vanella-----	40	Very limited Slope Frost action	1.00 0.50	Very limited Slope Unstable excavation walls	1.00 0.10	Very limited Slope Large stones	1.00 0.03
68D: Tumbling-----	35	Somewhat limited Slope Frost action Low strength	0.37 0.50 0.08	Somewhat limited Slope Too clayey Unstable excavation walls	0.37 0.12 0.10	Somewhat limited Slope	0.37

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
68D: Vanella-----	30	Somewhat limited Slope Frost action	0.37 0.50	Somewhat limited Slope Unstable excavation walls	0.37 0.10	Somewhat limited Slope Large stones	0.37 0.03
Urban land-----	25	Not rated		Not rated		Not rated	
69A: Tygart-----	55	Very limited Ponding Depth to saturated zone Frost action Low strength Shrink-swell	1.00 1.00 1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Too clayey Unstable excavation walls	1.00 1.00 0.24 0.10	Very limited Ponding Depth to saturated zone	1.00 1.00
Purdy-----	40	Very limited Ponding Depth to saturated zone Frost action Low strength Shrink-swell	1.00 1.00 1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Too clayey Unstable excavation walls	1.00 1.00 0.32 0.10	Very limited Ponding Depth to saturated zone	1.00 1.00
70: Udorthents, refuse substratum-----	85	Not rated		Not rated		Not rated	
71: Udorthents-----	50	Not rated		Not rated		Not rated	
Urban land-----	45	Not rated		Not rated		Not rated	

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
72C: Unaka, very stony----	60	Somewhat limited					
		Depth to hard bedrock	0.71	Very limited Depth to hard bedrock	1.00	Somewhat limited Depth to bedrock	0.71
		Frost action	0.50	Unstable	1.00	Gravel	0.16
		Slope	0.16	excavation walls Slope	0.16	Droughty	0.11
Plott, very stony----	30	Somewhat limited					
		Frost action	0.50	Very limited Unstable	1.00	Somewhat limited Slope	0.16
		Slope	0.16	excavation walls Slope	0.16		
72E: Unaka, very stony----	65	Very limited					
		Slope	1.00	Very limited Depth to hard	1.00	Very limited Slope	1.00
		Depth to hard bedrock	0.71	bedrock Slope	1.00	Depth to bedrock Gravel	0.71
		Frost action	0.50	Unstable excavation walls	1.00	Droughty	0.11
Plott, very stony----	30	Very limited					
		Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Frost action	0.50	Unstable excavation walls	1.00		
73C: Vanella, very stony-----	50	Somewhat limited					
		Frost action	0.50	Very limited Unstable	1.00	Somewhat limited Large stones	0.79
		Slope	0.04	excavation walls Slope	0.04	Slope	0.04

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73C: Tumblng, very stony-----	40	Somewhat limited					
		Slope	0.04	Somewhat limited		Somewhat limited	
		Frost action	0.50	Too clayey	0.04	Large stones	0.32
		Low strength	0.02	Unstable	0.12	Slope	0.04
73E: Vanella, very stony-----	50			excavation walls	0.10		
		Very limited					
		Slope	1.00	Very limited		Very limited	
Tumblng, very stony-----	40	Frost action	0.50	Slope	1.00	Slope	1.00
				Unstable	0.12	Large stones	0.32
				excavation walls	0.10		
74C: Watahala, very stony-----	60	Very limited					
		Low strength	1.00	Very limited		Somewhat limited	
		Shrink-swell	0.50	Unstable	1.00	Large stones	0.74
		Frost action	0.50	excavation walls		Slope	0.37
		Slope	0.37	Too clayey	1.00	Gravel	0.08
				Slope	0.37		

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74C: Frederick, very stony-----	30	Very limited					
		Low strength	1.00	Very limited		Somewhat limited	
		Shrink-swell	0.50	Too clayey	1.00	Large stones	0.84
		Frost action	0.50	Unstable	0.37	Slope	0.37
		Slope	0.37	excavation walls	0.10		
74E: Watahala, very stony-----	50	Very limited					
		Slope		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Unstable	1.00	Large stones	0.74
		Frost action	0.50	excavation walls	0.08	Gravel	0.08
Frederick, very stony-----	35	Very limited	0.50	Too clayey	1.00		
		Slope					
		Low strength		Very limited		Very limited	
		Shrink-swell	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Too clayey	0.84	Large stones	0.84
74F: Watahala, very stony-----	60	Very limited					
		Slope		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Unstable	1.00	Large stones	0.74
		Frost action	0.50	excavation walls	0.08	Gravel	0.08



Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74E: Frederick, very stony-----	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Low strength	1.00	Too clayey	1.00	Large stones	0.84
		Shrink-swell	0.50	Unstable	0.10		
		Frost action	0.50	excavation walls			
75E: Weikert-----	45	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Droughty	1.00
		Frost action	0.50	Unstable	0.10	Large stones	0.20
				excavation walls		Gravel	0.01
Berks-----	30	Very limited Slope	1.00	Very limited Depth to hard	1.00	Very limited Slope	1.00
		Frost action	0.50	bedrock		Depth to bedrock	0.46
		Depth to hard bedrock	0.46	Slope	1.00	Large stones	0.38
				Unstable	0.10		
				excavation walls			
Rough-----	20	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Droughty	1.00
		Frost action	0.50	Unstable	0.50	Large stones	0.61
				excavation walls		Gravel	0.54

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75F: Weikert-----	45	Very limited					
		Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	0.10	Droughty Large stones Gravel	1.00 0.20 0.01
Berks-----	30	Very limited					
		Slope	1.00	Very limited		Very limited	
		Frost action	0.50	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.46	Slope Unstable excavation walls	1.00 0.10	Depth to bedrock Large stones	0.46 0.38
Rough-----	15	Very limited					
		Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	0.50	Droughty Large stones Gravel	1.00 0.61 0.54
76G: Weikert-----	35	Very limited					
		Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	0.10	Droughty Large stones Gravel	1.00 0.20 0.01

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
76G: Rough-----	30	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to bedrock Slope	1.00
		Slope	1.00	Slope	1.00	Droughty	1.00
		Frost action	0.50	Unstable excavation walls	0.50	Large stones	0.61
						Gravel	0.54
Rock outcrop-----	25	Not rated		Not rated		Not rated	
77C: Wintergreen-----	90	Very limited Low strength Shrink-swell	1.00	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37
		Frost action	0.50	Too clayey	0.12		
		Slope	0.37	Unstable excavation walls	0.10		
77D: Wintergreen-----	90	Very limited Slope		Very limited Slope		Very limited Slope	
		Low strength	1.00	Too clayey	1.00		1.00
		Shrink-swell	0.50	Unstable	0.12		
		Frost action	0.50	excavation walls	0.10		
77E: Wintergreen-----	90	Very limited Slope		Very limited Slope		Very limited Slope	
		Low strength	1.00	Too clayey	1.00		1.00
		Shrink-swell	0.50	Unstable	0.12		
		Frost action	0.50	excavation walls	0.10		

Table 11.--Building Site Development, Part II--Continued

Map unit symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
78E: Wintergreen, very stony-----	85	Very limited Slope Low strength Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Slope Too clayey Unstable excavation walls	1.00 0.12 0.10	Very limited Slope	1.00
79A: Wolfgap-----	90	Somewhat limited Frost action Flooding	0.50 0.40	Very limited Unstable excavation walls	1.00	Not limited	
80A: Wolfgap-----	35	Somewhat limited Frost action Flooding	0.50 0.40	Very limited Unstable excavation walls	1.00	Not limited	
Derroc-----	30	Somewhat limited Frost action Flooding Large stones	0.50 0.40 0.25	Very limited Unstable excavation walls Large stones	1.00 0.25	Very limited Large stones Droughty	1.00 0.05
Urban land-----	25	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1A: Alonzville, rarely flooded-----	80	Somewhat limited Slow water movement Flooding	0.50 0.40	Somewhat limited Seepage Flooding	0.50 0.40
2B: Alonzville-----	80	Somewhat limited Slow water movement	0.50	Somewhat limited Slope Seepage	0.68 0.50
3B: Alonzville-----	50	Somewhat limited Slow water movement	0.50	Somewhat limited Slope Seepage	0.68 0.50
Urban land-----	45	Not rated		Not rated	
4C: Berks-----	50	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.37	Very limited Depth to hard bedrock Seepage Slope	1.00 1.00 1.00
Weikert-----	40	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.37	Very limited Depth to hard bedrock Seepage Slope Large stones	1.00 1.00 1.00 1.00 0.07
5A: Botetourt-----	90	Very limited Depth to saturated zone Slow water movement Flooding	1.00 0.50 0.40	Very limited Depth to saturated zone Seepage Flooding	1.00 0.50 0.40
6A: Botetourt-----	50	Very limited Depth to saturated zone Slow water movement Flooding	1.00 0.50 0.40	Very limited Depth to saturated zone Seepage Flooding	1.00 0.50 0.40
Urban land-----	45	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
7A:					
Buckton-----	55	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Weaver-----	30	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
8F:					
Caneyville-----	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slow water movement	1.00	Slope	1.00
		Slope	1.00		
Frederick-----	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Rock outcrop-----	15	Not rated		Not rated	
9C:					
Carbo, very rocky---	55	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slow water movement	1.00	Slope	1.00
		Slope	0.04		
Opequon, very rocky-----	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.04	Slope	1.00
				Seepage	0.27
9E:					
Carbo, very rocky---	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slow water movement	1.00	Slope	1.00
		Slope	1.00		
Opequon, very rocky-----	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.27
10F:					
Carbo-----	55	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slow water movement	1.00	Slope	1.00
		Slope	1.00		

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
10F: Opequon-----	25	Very limited Depth to bedrock Slope	1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00  1.00 0.27
Rock outcrop-----	15	Not rated		Not rated	
11B: Cottonbend-----	85	Somewhat limited Slow water movement	0.50	Somewhat limited Slope Seepage	0.68 0.50
11C: Cottonbend-----	85	Somewhat limited Slow water movement Slope	0.50  0.37	Very limited Slope Seepage	1.00 0.50
12A: Coursey, rarely flooded-----	80	Very limited Depth to saturated zone Slow water movement Flooding	1.00 0.50 0.40	Very limited Depth to saturated zone Seepage Flooding	1.00 0.50 0.40
13B: Coursey-----	80	Very limited Depth to saturated zone Slow water movement	1.00 0.50	Very limited Depth to saturated zone Seepage Slope	1.00 0.50 0.32
14C: Dekalb, very stony-----	50	Very limited Depth to bedrock Seepage, bottom layer Filtering capacity Large stones Slope	1.00 1.00 1.00 0.58 0.04	Very limited Depth to hard bedrock Seepage Slope Large stones	1.00 1.00 1.00 0.33
Lehew, very stony---	20	Very limited Depth to bedrock Filtering capacity Large stones Seepage, bottom layer Slope	1.00 1.00 1.00 1.00 0.04	Very limited Depth to hard bedrock Seepage Slope Large stones	1.00  1.00 1.00 1.00
Berks, very stony---	15	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.04	Very limited Depth to hard bedrock Seepage Slope	1.00  1.00 1.00

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
14E: Dekalb, very stony-----	50	Very limited Depth to bedrock Slope Seepage, bottom layer Filtering capacity Large stones	 1.00 1.00 1.00  1.00 0.58	Very limited Depth to hard bedrock Slope Seepage Large stones	 1.00  1.00 1.00 0.33
Lehew, very stony---	20	Very limited Depth to bedrock Slope Filtering capacity Large stones Seepage, bottom layer	 1.00 1.00 1.00  1.00 1.00	Very limited Depth to hard bedrock Slope Seepage Large stones	 1.00  1.00 1.00 1.00
Berks, very stony---	15	Very limited Depth to bedrock Slope Seepage, bottom layer	 1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	 1.00  1.00 1.00
14F: Dekalb, very stony-----	50	Very limited Depth to bedrock Slope Seepage, bottom layer Filtering capacity Large stones	 1.00 1.00 1.00  1.00 0.58	Very limited Depth to hard bedrock Slope Seepage Large stones	 1.00  1.00 1.00 0.33
Lehew, very stony---	20	Very limited Depth to bedrock Slope Filtering capacity Large stones Seepage, bottom layer	 1.00 1.00 1.00  1.00 1.00	Very limited Depth to hard bedrock Slope Seepage Large stones	 1.00  1.00 1.00 1.00
Berks, very stony---	15	Very limited Depth to bedrock Slope Seepage, bottom layer	 1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	 1.00  1.00 1.00
15E: Dekalb, extremely stony-----	50	Very limited Depth to bedrock Slope Seepage, bottom layer Filtering capacity Large stones	 1.00 1.00 1.00  1.00 0.58	Very limited Depth to hard bedrock Slope Seepage Large stones	 1.00  1.00 1.00 0.33



# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
15E: Lehew, extremely stony-----	30	Very limited Depth to bedrock Slope Filtering capacity Large stones Seepage, bottom layer	1.00 1.00 1.00 1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Seepage Large stones	1.00 1.00 1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	
15F: DeKalb, extremely stony-----	50	Very limited Depth to bedrock Slope Seepage, bottom layer Filtering capacity Large stones	1.00 1.00 1.00 1.00 1.00 0.58	Very limited Depth to hard bedrock Slope Seepage Large stones	1.00 1.00 1.00 1.00 0.33
Lehew, extremely stony-----	20	Very limited Depth to bedrock Slope Filtering capacity Large stones Seepage, bottom layer	1.00 1.00 1.00 1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Seepage Large stones	1.00 1.00 1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	
16C: DeKalb, very stony-----	60	Very limited Depth to bedrock Seepage, bottom layer Filtering capacity Large stones Slope	1.00 1.00 1.00 1.00 0.58 0.37	Very limited Depth to hard bedrock Seepage Slope Large stones	1.00 1.00 1.00 1.00 0.33
Lily, very stony----	30	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 1.00 0.37	Very limited Depth to hard bedrock Seepage Slope	1.00 1.00 1.00 1.00
16E: DeKalb, very stony-----	50	Very limited Depth to bedrock Slope Seepage, bottom layer Filtering capacity Large stones	1.00 1.00 1.00 1.00 1.00 0.58	Very limited Depth to hard bedrock Slope Seepage Large stones	1.00 1.00 1.00 1.00 0.33

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
16E: Lily, very stony----	40	Very limited Depth to bedrock Slope Seepage, bottom layer	1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 1.00 1.00
17F: Dekalb, very stony-----	75	Very limited Depth to bedrock Slope Seepage, bottom layer Filtering capacity Large stones	1.00 1.00 1.00 1.00 0.58	Very limited Depth to hard bedrock Slope Seepage Large stones	1.00 1.00 1.00 1.00 0.33
Lily, very stony----	20	Very limited Depth to bedrock Slope Seepage, bottom layer	1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 1.00
18A: Derroc-----	85	Very limited Flooding Seepage, bottom layer Filtering capacity Large stones	1.00 1.00 1.00 0.25	Very limited Flooding Seepage Large stones	1.00 1.00 0.79
19C: Edneytown-----	90	Very limited Seepage, bottom layer Slow water movement Slope Depth to bedrock	1.00 0.50 0.37 0.09	Very limited Slope Seepage	1.00 1.00
19D: Edneytown-----	90	Very limited Slope Seepage, bottom layer Slow water Depth to bedrock	1.00 1.00 0.50 0.09	Very limited Slope Seepage	1.00 1.00
20C: Edneytown, very stony-----	60	Very limited Seepage, bottom layer Slow water movement Slope Depth to bedrock	1.00 0.50 0.37 0.09	Very limited Seepage Slope	1.00 1.00

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
20C: Peaks, very stony---	35	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.37	Very limited Depth to hard bedrock Depth to soft bedrock Seepage Slope	1.00 1.00 1.00 1.00 1.00
20E: Edneytown, very stony-----	60	Very limited Slope Seepage, bottom layer Slow water movement Depth to bedrock	1.00 1.00 0.50 0.09	Very limited Slope Seepage	1.00 1.00
Peaks, very stony---	35	Very limited Depth to bedrock Slope Seepage, bottom layer	1.00 1.00 1.00	Very limited Depth to hard bedrock Depth to soft bedrock Slope Seepage	1.00 1.00 1.00 1.00 1.00
20F: Edneytown, very stony-----	60	Very limited Slope Seepage, bottom layer Slow water movement Depth to bedrock	1.00 1.00 0.50 0.09	Very limited Slope Seepage	1.00 1.00
Peaks, very stony---	35	Very limited Depth to bedrock Slope Seepage, bottom layer	1.00 1.00 1.00	Very limited Depth to hard bedrock Depth to soft bedrock Slope Seepage	1.00 1.00 1.00 1.00 1.00
21B: Escatawba-----	80	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Somewhat limited Slope Seepage Depth to saturated zone	0.68 0.50 0.19
21C: Escatawba-----	80	Very limited Depth to saturated zone Slow water movement Slope	1.00 1.00 0.37	Very limited Slope Seepage Depth to saturated zone	1.00 0.50 0.19

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
22B: Frederick-----	85	Somewhat limited Slow water movement	0.50	Somewhat limited Slope Seepage	0.68 0.50
22C: Frederick-----	80	Somewhat limited Slow water movement Slope	0.50 0.37	Very limited Slope Seepage	1.00 0.50
22D: Frederick-----	80	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
23E: Frederick-----	65	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
Caneyville-----	30	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 1.00	Very limited Depth to hard bedrock Slope	1.00 1.00
24C: Frederick, very rocky-----	45	Somewhat limited Slow water movement Slope	0.50 0.04	Very limited Slope Seepage	1.00 0.50
Caneyville, very rocky-----	35	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 0.04	Very limited Depth to hard bedrock Slope	1.00 1.00
24E: Frederick, very rocky-----	40	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
Caneyville, very rocky-----	38	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 1.00	Very limited Depth to hard bedrock Slope	1.00 1.00
25C: Frederick-----	60	Somewhat limited Slow water movement Slope	0.50 0.37	Very limited Slope Seepage	1.00 0.50

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
25C: Watahala-----	30	Somewhat limited		Very limited	
		Slow water	0.68	Slope	1.00
		movement		Seepage	1.00
		Slope	0.37		1.00
25D: Frederick-----	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water	0.50	Seepage	0.50
		movement			
Watahala-----	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water	0.68	Seepage	1.00
		movement			
25E: Frederick-----	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water	0.50	Seepage	0.50
		movement			
Watahala-----	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water	0.68	Seepage	1.00
		movement			
26A: Gladehill-----	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom	1.00	Seepage	1.00
		layer			
27B: Groseclose-----	80	Very limited		Somewhat limited	
		Slow water	1.00	Slope	0.68
		movement		Seepage	0.50
27C: Groseclose-----	80	Very limited		Very limited	
		Slow water	1.00	Slope	1.00
		movement		Seepage	0.50
		Slope	0.37		
27D: Groseclose-----	80	Very limited		Very limited	
		Slow water	1.00	Slope	1.00
		movement		Seepage	0.50
		Slope	1.00		
28E: Groseclose-----	50	Very limited		Very limited	
		Slow water	1.00	Slope	1.00
		movement		Seepage	0.50
		Slope	1.00		
Needmore-----	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft	1.00
		Slow water	1.00	bedrock	
		movement		Slope	1.00
		Slope	1.00		

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
29C:					
Groseclose-----	35	Very limited Slow water movement	1.00	Very limited Slope Seepage	1.00 0.50
Needmore-----	30	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 0.04	Very limited Depth to soft bedrock Slope	1.00 1.00
Urban land-----	25	Not rated		Not rated	
30A:					
Holly-----	50	Very limited Flooding Ponding Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 1.00 1.00 0.72	Very limited Ponding Flooding Depth to saturated zone Seepage	1.00 1.00 1.00 1.00
Orrville-----	45	Very limited Flooding Ponding Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 1.00 1.00 0.50	Very limited Ponding Flooding Depth to saturated zone Seepage	1.00 1.00 1.00 1.00
31A:					
Ingledove-----	85	Somewhat limited Slow water movement Flooding	0.50 0.40	Somewhat limited Seepage Flooding	0.50 0.40
32A:					
Irongate-----	85	Very limited Flooding Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 1.00 0.50	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 1.00
33C:					
Litz-----	35	Very limited Depth to bedrock Slow water movement Slope	1.00 0.50 0.37 0.37	Very limited Depth to hard bedrock Depth to soft bedrock Slope Seepage	1.00 1.00 1.00 1.00 0.50

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
33C: Chiswell-----	30	Very limited Depth to bedrock Slope	1.00 0.37 0.37	Very limited Depth to soft bedrock Slope Seepage	1.00 1.00 0.50
Groseclose-----	20	Very limited Slow water movement Slope	1.00 0.37	Very limited Slope Seepage	1.00 0.50
33E: Litz-----	35	Very limited Depth to bedrock Slope Slow water movement	1.00 1.00 0.50	Very limited Depth to hard bedrock Depth to soft bedrock Slope Seepage	1.00 1.00 1.00 1.00 0.50
Chiswell-----	25	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	1.00 1.00 1.00 0.50
Groseclose-----	25	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope Seepage	1.00 0.50
33F: Litz-----	35	Very limited Depth to bedrock Slope Slow water movement	1.00 1.00 0.50	Very limited Depth to hard bedrock Depth to soft bedrock Slope Seepage	1.00 1.00 1.00 1.00 0.50
Chiswell-----	30	Very limited Depth to bedrock Slope	1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	1.00 1.00 1.00 0.50
Groseclose-----	20	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope Seepage	1.00 0.50
34C: Litz, very stony----	55	Very limited Depth to bedrock Slow water movement Slope	1.00 0.50 0.04	Very limited Depth to hard bedrock Depth to soft bedrock Slope Seepage	1.00 1.00 1.00 1.00 0.50

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
34C: Needmore, very stony-----	35	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 0.04	Very limited Depth to soft bedrock Slope	1.00 1.00
34E: Litz, very stony----	55	Very limited Depth to bedrock Slope Slow water movement	1.00 1.00 0.50	Very limited Depth to hard bedrock Depth to soft bedrock Slope Seepage	1.00 1.00 1.00 1.00 0.50
Needmore, very stony-----	35	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00
34F: Litz, very stony----	55	Very limited Depth to bedrock Slope Slow water movement	1.00 1.00 0.50	Very limited Depth to hard bedrock Depth to soft bedrock Slope Seepage	1.00 1.00 1.00 1.00 0.50
Needmore, very stony-----	35	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00
35C: Lodi-----	40	Somewhat limited Slow water movement Slope	0.50 0.37	Very limited Slope Seepage	1.00 1.00 1.00
McClung-----	35	Somewhat limited Slow water movement Slope	0.50 0.37	Very limited Slope Seepage	1.00 0.98
Lily-----	20	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.37	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 1.00 1.00
35E: Lodi-----	35	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 1.00



# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
35E: McClung-----	30	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.98
Lily-----	25	Very limited Depth to bedrock Slope Seepage, bottom layer	1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 1.00
36C: Lostcove, extremely stony-----	80	Very limited Large stones Slow water movement Slope Depth to saturated zone	1.00 0.50 0.37 0.01	Very limited Seepage Slope Large stones	1.00 1.00 1.00
37E: Lostcove, very stony-----	80	Very limited Slope Large stones Slow water movement Depth to saturated zone	1.00 1.00 0.50 0.01	Very limited Slope Seepage Large stones	1.00 1.00 1.00
37F: Lostcove, very stony-----	80	Very limited Slope Large stones Slow water movement Depth to saturated zone	1.00 1.00 0.50 0.01	Very limited Slope Seepage Large stones	1.00 1.00 1.00
38E: Marbleyard, extremely stony----	70	Very limited Depth to bedrock Slow water movement Slope Seepage, bottom layer Large stones	1.00 1.00 1.00 1.00 0.30	Very limited Depth to hard bedrock Slope Seepage Large stones	1.00 1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
39F: Marbleyard, extremely stony----	45	Very limited Depth to bedrock Slow water movement Slope Seepage, bottom layer Large stones	1.00 1.00 1.00 1.00 0.30	Very limited Depth to hard bedrock Slope Seepage Large stones	1.00 1.00 1.00 1.00
Sherando, extremely stony-----	30	Very limited Slope Seepage, bottom layer Filtering capacity	1.00 1.00 1.00	Very limited Slope Seepage	1.00 1.00
Rock outcrop-----	20	Not rated		Not rated	
39G: Marbleyard, extremely stony----	45	Very limited Depth to bedrock Slow water movement Slope Seepage, bottom layer Large stones	1.00 1.00 1.00 1.00 0.30	Very limited Depth to hard bedrock Slope Seepage Large stones	1.00 1.00 1.00 1.00
Sherando, extremely stony-----	30	Very limited Slope Seepage, bottom layer Filtering capacity	1.00 1.00 1.00	Very limited Slope Seepage	1.00 1.00
Rock outcrop-----	20	Not rated		Not rated	
40A: Maurertown-----	50	Very limited Ponding Depth to saturated zone Slow water movement Flooding	1.00 1.00 1.00 0.40	Very limited Ponding Depth to saturated zone Flooding	1.00 1.00 0.40
Toms-----	45	Very limited Ponding Depth to saturated zone Slow water movement Flooding	1.00 1.00 1.00 0.40	Very limited Ponding Depth to saturated zone Flooding	1.00 1.00 0.40

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
41C: McCamy, very stony-----	85	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.04	Very limited Depth to hard bedrock Seepage Slope	1.00 1.00 1.00
42F: McClung, very stony-----	40	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.98
Caneyville, very stony-----	30	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 1.00	Very limited Depth to hard bedrock Slope	1.00 1.00
Dekalb, very stony-----	25	Very limited Depth to bedrock Slope Seepage, bottom layer Filtering capacity Large stones	1.00 1.00 1.00 1.00 0.58	Very limited Depth to hard bedrock Slope Seepage Large stones	1.00 1.00 1.00 0.33
43C: Needmore-----	60	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 0.04	Very limited Depth to soft bedrock Slope	1.00 1.00
Opequon-----	30	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.27
43E: Needmore-----	55	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00
Opequon-----	35	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.27

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
43F:					
Needmore-----	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft	1.00
		Slow water	1.00	bedrock	
		movement		Slope	1.00
		Slope	1.00		
Opequon-----	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard	1.00
		Slope	1.00	bedrock	
				Slope	1.00
				Seepage	0.27
44E:					
Needmore-----	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft	1.00
		Slow water	1.00	bedrock	
		movement		Slope	1.00
		Slope	1.00		
Urban land-----	25	Not rated		Not rated	
45B:					
Nicelytown-----	80	Very limited		Very limited	
		Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone	
		Slow water	1.00	Slope	0.68
		movment			
46B:					
Nicelytown-----	50	Very limited		Very limited	
		Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone	
		Slow water	1.00	Slope	0.68
		movement			
Urban land-----	45	Not rated		Not rated	
47C:					
Oriskany, extremely					
stony-----	65	Very limited		Very limited	
		Seepage, bottom	1.00	Seepage	1.00
		layer		Slope	1.00
		Large stones	0.55	Large stones	0.99
		Slope	0.37		
Laidig, extremely					
stony-----	25	Very limited		Very limited	
		Depth to cemented	1.00	Depth to cemented	1.00
		pan		pan	
		Depth to	1.00	Slope	1.00
		saturated zone		Seepage	1.00
		Slope	0.37	Depth to	0.04
				saturated zone	
47E:					
Oriskany, extremely					
stony-----	60	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom	1.00	Seepage	1.00
		layer		Large stones	0.99
		Large stones	0.55		

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
47E: Laidig, extremely stony-----	30	Very limited Depth to cemented pan Depth to saturated zone Slope	1.00 1.00 1.00	Very limited Depth to cemented pan Slope Seepage Depth to saturated zone	1.00 1.00 1.00 0.04
48F: Oriskany, extremely stony-----	80	Very limited Slope Seepage, bottom layer Large stones	1.00 1.00 0.55	Very limited Slope Seepage Large stones	1.00 1.00 0.99
49C: Oriskany, extremely stony-----	55	Very limited Seepage, bottom layer Large stones Slope	1.00 0.55 0.37	Very limited Seepage Slope Large stones	1.00 1.00 0.99
Murrill, extremely stony-----	35	Somewhat limited Slow water movement Slope	0.72 0.37	Very limited Slope Seepage	1.00 0.50
49E: Oriskany, extremely stony-----	55	Very limited Slope Seepage, bottom layer Large stones	1.00 1.00 0.55	Very limited Slope Seepage Large stones	1.00 1.00 0.99
Murrill, extremely stony-----	35	Very limited Slope Slow water movement	1.00 0.72	Very limited Slope Seepage	1.00 0.50
49F: Oriskany, extremely stony-----	65	Very limited Slope Seepage, bottom layer Large stones	1.00 1.00 0.55	Very limited Slope Seepage Large stones	1.00 1.00 0.99
Murrill, extremely stony-----	25	Very limited Slope Slow water movement	1.00 0.72	Very limited Slope Seepage	1.00 0.50

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
50E: Peaks, very rocky---	55	Very limited Depth to bedrock Slope Seepage, bottom layer	1.00 2.00 1.00	Very limited Depth to hard bedrock Depth to soft bedrock Slope Seepage	1.00 1.00 1.00 1.00 1.00
Edneytown, very rocky-----	40	Very limited Slope Seepage, bottom layer Slow water movement Depth to bedrock	1.00 1.00 0.50 0.09	Very limited Slope Seepage	1.00 1.00
50F: Peaks, very rocky---	55	Very limited Depth to bedrock Slope Seepage, bottom layer	1.00 1.00 1.00	Very limited Depth to hard bedrock Depth to soft bedrock Slope Seepage	1.00 1.00 1.00 1.00 1.00
Edneytown, very rocky-----	40	Very limited Slope Seepage, bottom layer Slow water movement Depth to bedrock	1.00 1.00 0.50 0.09	Very limited Slope Seepage	1.00 1.00
51A: Philo-----	75	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00
52C: Pignut, very stony--	50	Very limited Depth to bedrock Slow water movement Slope	1.00 0.98 0.04	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.08
Myersville, very stony-----	40	Somewhat limited Depth to bedrock Slow water movement Slope	0.77 0.50 0.04	Very limited Slope Seepage Depth to soft bedrock	1.00 0.50 0.42

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
53E: Pignut, very stony-----	90	Very limited Depth to bedrock Slope Slow water movement	1.00 1.00 0.98	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.08
53F: Pignut, very stony-----	90	Very limited Depth to bedrock Slope Slow water movement	1.00 1.00 0.98	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.08
54: Pits-----	50	Not rated		Not rated	
Dumps-----	45	Not rated		Not rated	
55A: Pope-----	90	Very limited Flooding Seepage, bottom layer	1.00 1.00	Very limited Flooding Seepage	1.00 1.00
56G: Rock outcrop-----	60	Not rated		Not rated	
Opequon-----	25	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.27
57A: Sensabaugh-----	40	Very limited Flooding Seepage, bottom layer	1.00 1.00	Very limited Flooding Seepage	1.00 1.00
Lobdell-----	30	Very limited Flooding Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00
Derroc-----	20	Very limited Flooding Seepage, bottom layer Filtering capacity Large stones	1.00 1.00 1.00 0.25	Very limited Flooding Seepage Large stones	1.00 1.00 0.79
58B: Shottower-----	90	Somewhat limited Slow water movement	0.50	Somewhat limited Slope Seepage	0.68 0.50

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
58C: Shottower-----	90	Somewhat limited Slow water movement Slope	0.50 0.37	Very limited Slope Seepage	1.00 0.50
58D: Shottower-----	85	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
59E: Shottower-----	85	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
60C: Shottower-----	50	Somewhat limited Slow water movement	0.50	Somewhat limited Slope Seepage	0.68 0.50
Urban land-----	45	Not rated		Not rated	
61B: Slabtown-----	80	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Somewhat limited Slope Seepage Depth to saturated zone	0.68 0.50 0.44
61C: Slabtown-----	80	Very limited Depth to saturated zone Slow water movement Slope	1.00 1.00 0.37	Very limited Slope Seepage Depth to saturated zone	1.00 0.50 0.44
62: Slickens-----	100	Not rated		Not rated	
63E: Stumptown, extremely stony----	40	Very limited Depth to bedrock Slope Seepage, bottom layer Large stones	1.00 1.00 1.00 0.77	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 1.00
Marbleyard, extremely stony----	35	Very limited Depth to bedrock Slow water movement Slope Seepage, bottom layer Large stones	1.00 1.00 1.00 1.00 0.30	Very limited Depth to hard bedrock Slope Seepage Large stones	1.00 1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	



# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
63F: Stumptown, extremely stony----	40	Very limited Depth to bedrock Slope Seepage, bottom layer Large stones	 1.00 1.00 1.00  0.77	Very limited Depth to hard bedrock Slope Seepage	 1.00  1.00 1.00
Marbleyard, extremely stony----	35	Very limited Depth to bedrock Slow water movement Slope Seepage, bottom layer Large stones	 1.00 1.00  1.00 1.00 1.00 0.30	Very limited Depth to hard bedrock Slope Seepage Large stones	 1.00  1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	
63G: Stumptown, extremely stony----	40	Very limited Depth to bedrock Slope Seepage, bottom layer Large stones	 1.00 1.00 1.00  0.77	Very limited Depth to hard bedrock Slope Seepage	 1.00  1.00 1.00
Marbleyard, extremely stony----	35	Very limited Depth to bedrock Slow water movement Slope Seepage, bottom layer Large stones	 1.00 1.00  1.00 1.00 1.00 0.30	Very limited Depth to hard bedrock Slope Seepage Large stones	 1.00  1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	
64E: Stumptown, very stony-----	50	Very limited Depth to bedrock Slope Seepage, bottom layer Large stones	 1.00 1.00 1.00  0.77	Very limited Depth to hard bedrock Slope Seepage	 1.00  1.00 1.00
Sylco, very stony---	45	Very limited Depth to bedrock Slope Seepage, bottom layer Large stones	 1.00 1.00 1.00  0.17	Very limited Depth to hard bedrock Slope Seepage Large stones	 1.00  1.00 1.00 0.58

# Soil Survey of Rockbridge County, Virginia

Table 12.--Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
64F: Stumptown, very stony-----	50	Very limited Depth to bedrock Slope Seepage, bottom layer Large stones	 1.00 1.00 1.00  0.77	Very limited Depth to hard bedrock Slope Seepage	 1.00  1.00 1.00
Sylco, very stony---	35	Very limited Depth to bedrock Slope Seepage, bottom layer Large stones	 1.00 1.00 1.00  0.17	Very limited Depth to hard bedrock Slope Seepage Large stones	 1.00  1.00 1.00 0.58
65E: Sylco, very rocky---	45	Very limited Depth to bedrock Slope Seepage, bottom layer Large stones	 1.00 1.00 1.00  0.17	Very limited Depth to hard bedrock Slope Seepage Large stones	 1.00  1.00 1.00 0.58
Marbleyard, very rocky-----	40	Very limited Depth to bedrock Slow water movement Slope Seepage, bottom layer Large stones	 1.00 1.00  1.00 1.00 1.00 0.30	Very limited Depth to hard bedrock Slope Seepage Large stones	 1.00  1.00 1.00 1.00
65F: Sylco, very rocky---	50	Very limited Depth to bedrock Slope Seepage, bottom layer Large stones	 1.00 1.00 1.00  0.17	Very limited Depth to hard bedrock Slope Seepage Large stones	 1.00  1.00 1.00 0.58
Marbleyard, very rocky-----	45	Very limited Depth to bedrock Slow water movement Slope Seepage, bottom layer Large stones	 1.00 1.00  1.00 1.00 1.00 0.30	Very limited Depth to hard bedrock Slope Seepage Large stones	 1.00  1.00 1.00 1.00
65G: Sylco, very rocky---	50	Very limited Depth to bedrock Slope Seepage, bottom layer Large stones	 1.00 1.00 1.00  0.17	Very limited Depth to hard bedrock Slope Seepage Large stones	 1.00  1.00 1.00 0.58

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
65G: Marbleyard, very rocky-----	35	Very limited Depth to bedrock Slow water movement Slope Seepage, bottom layer Large stones	 1.00 1.00 1.00 1.00 0.30	Very limited Depth to hard bedrock Slope Seepage Large stones	 1.00 1.00 1.00 1.00
66C: Thunder, very bouldery-----	50	Very limited Large stones Seepage, bottom layer Slow water movement Slope	 1.00 1.00 0.50 0.37	Very limited Seepage Slope Large stones	 1.00 1.00 0.99
Saunook, very bouldery-----	30	Somewhat limited Slow water movement Slope	 0.50 0.37	Very limited Slope Seepage	 1.00 0.50
66E: Thunder, very bouldery-----	50	Very limited Slope Large stones Seepage, bottom layer Slow water movement	 1.00 1.00 1.00 0.50	Very limited Slope Seepage Large stones	 1.00 1.00 0.99
Saunook, very bouldery-----	30	Very limited Slope Slow water movement	 1.00 0.50	Very limited Slope Seepage	 1.00 0.50
66F: Thunder, very bouldery-----	50	Very limited Slope Large stones Seepage, bottom layer Slow water movement	 1.00 1.00 1.00 0.50	Very limited Slope Seepage Large stones	 1.00 1.00 0.99
Saunook, very bouldery-----	30	Very limited Slope Slow water movement	 1.00 0.50	Very limited Slope Seepage	 1.00 0.50
66F: Thunder, very bouldery-----	50	Very limited Slope Large stones Seepage, bottom layer Slow water movement	 1.00 1.00 1.00 0.50	Very limited Slope Seepage Large stones	 1.00 1.00 0.99
Saunook, very bouldery-----	30	Very limited Slope Slow water movement	 1.00 0.50	Very limited Slope Seepage	 1.00 0.50
67C: Tumbling-----	50	Somewhat limited Slow water movement Slope	 0.50 0.37	Very limited Slope Seepage	 1.00 0.50

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
67C: Vanella-----	40	Somewhat limited Slow water movement Slope	0.50 0.37	Very limited Slope Seepage	1.00 0.50
67D: Tumbling-----	50	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
Vanella-----	40	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
67E: Tumbling-----	50	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
Vanella-----	40	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
68D: Tumbling-----	35	Somewhat limited Slow water movement Slope	0.50 0.37	Very limited Slope Seepage	1.00 0.50
Vanella-----	30	Somewhat limited Slow water movement Slope	0.50 0.37	Very limited Slope Seepage	1.00 0.50
Urban land-----	25	Not rated		Not rated	
69A: Tygart-----	55	Very limited Ponding Depth to saturated zone Slow water movement	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
Purdy-----	40	Very limited Ponding Depth to saturated zone Slow water movement	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
70: Udorthents, refuse substratum-----	85	Not rated		Not rated	
71: Udorthents-----	50	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
71: Urban land-----	45	Not rated		Not rated	
72C: Unaka, very stony---	60	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.16	Very limited Depth to hard bedrock Seepage Slope	1.00 1.00 1.00
Plott, very stony---	30	Very limited Seepage, bottom layer Slope	1.00 0.16	Very limited Seepage Slope	1.00 1.00
72E: Unaka, very stony---	65	Very limited Depth to bedrock Slope Seepage, bottom layer	1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 1.00
Plott, very stony---	30	Very limited Slope Seepage, bottom layer	1.00 1.00	Very limited Slope Seepage	1.00 1.00
73C: Vanella, very stony-----	50	Somewhat limited Slow water movement Slope	0.50 0.04	Very limited Slope Seepage	1.00 0.50
Tumbling, very stony-----	40	Somewhat limited Slow water movement Slope	0.50 0.04	Very limited Slope Seepage	1.00 0.50
73E: Vanella, very stony-----	50	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
Tumbling, very stony-----	40	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
74C: Watahala, very stony-----	60	Somewhat limited Slow water movement Slope	0.68 0.37	Very limited Slope Seepage	1.00 1.00

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
74C: Frederick, very stony-----	30	Somewhat limited Slow water movement Slope	0.50 0.37	Very limited Slope Seepage	1.00 0.50
74E: Watahala, very stony-----	50	Very limited Slope Slow water movement	1.00 0.68	Very limited Slope Seepage	1.00 1.00
Frederick, very stony-----	35	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
74F: Watahala, very stony-----	60	Very limited Slope Slow water movement	1.00 0.68	Very limited Slope Seepage	1.00 1.00
Frederick, very stony-----	20	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
75E: Weikert-----	45	Very limited Depth to bedrock Slope Seepage, bottom layer	1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Seepage Large stones	1.00 1.00 1.00 0.07
Berks-----	30	Very limited Depth to bedrock Slope Seepage, bottom layer	1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 1.00
Rough-----	20	Very limited Depth to bedrock Slope Seepage, bottom layer	1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Large stones	1.00 1.00 0.09
75F: Weikert-----	45	Very limited Depth to bedrock Slope Seepage, bottom layer	1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Seepage Large stones	1.00 1.00 1.00 0.07

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
75F:					
Berks-----	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard	1.00
		Slope	1.00	bedrock	
		Seepage, bottom	1.00	Slope	1.00
		layer		Seepage	1.00
Rough-----	15	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard	1.00
		Slope	1.00	bedrock	
		Seepage, bottom	1.00	Slope	1.00
		layer		Large stones	0.09
76G:					
Weikert-----	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard	1.00
		Slope	1.00	bedrock	
		Seepage, bottom	1.00	Slope	1.00
		layer		Seepage	1.00
				Large stones	0.07
Rough-----	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard	1.00
		Slope	1.00	bedrock	
		Seepage, bottom	1.00	Slope	1.00
		layer		Large stones	0.09
Rock outcrop-----	25	Not rated		Not rated	
77C:					
Wintergreen-----	90	Somewhat limited		Very limited	
		Slow water	0.50	Slope	1.00
		movement		Seepage	0.50
		Slope	0.37		
77D:					
Wintergreen-----	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water	0.50	Seepage	0.50
		movement			
77E:					
Wintergreen-----	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water	0.50	Seepage	0.50
		movement			
78E:					
Wintergreen, very					
stony-----	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water	0.50	Seepage	0.50
		movement			
79A:					
Wolfgap-----	90	Somewhat limited		Somewhat limited	
		Slow water	0.50	Seepage	0.50
		movement		Flooding	0.40
		Flooding	0.40		

# Soil Survey of Rockbridge County, Virginia

Table 12.—Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank	Sewage lagoons		
		absorption fields	Rating class and limiting features	Value	Rating class and limiting features
80A:					
Wolfgap-----	35	Somewhat limited			
		Slow water		0.50	Seepage
		movement			Flooding
		Flooding		0.40	
Derroc-----	30	Very limited			Very limited
		Seepage, bottom		1.00	Seepage
		layer			Large stones
		Filtering		1.00	Flooding
		capacity			
		Flooding		0.40	
		Large stones		0.25	
Urban land-----	25	Not rated			Not rated
W:					
Water-----	100	Not rated			Not rated



Table 12.-Sanitary Facilities, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1A: Alonzville, rarely flooded-----	80	Somewhat limited Too clayey Flooding	0.50 0.40	Somewhat limited Flooding	0.40	Somewhat limited Too clayey	0.50
2B: Alonzville-----	80	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
3B: Alonzville-----	50	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
Urban land-----	45	Not rated		Not rated		Not rated	
4C: Berks-----	50	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.37	Very limited Depth to bedrock Seepage Slope	1.00 1.00 0.37	Very limited Depth to bedrock Slope Seepage Gravel content	1.00 0.37 0.21 0.13
Weikert-----	40	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.37	Very limited Depth to bedrock Slope	1.00 0.37	Very limited Depth to bedrock Gravel content Seepage Slope	1.00 0.56 0.50 0.37

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
5A: Botetourt-----	90	Very limited Depth to saturated zone Too clayey Flooding	1.00 0.50 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Somewhat limited Depth to saturated zone Too clayey	0.86 0.50
6A: Botetourt-----	50	Very limited Depth to saturated zone Too clayey Flooding	1.00 0.50 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Somewhat limited Depth to saturated zone Too clayey	0.86 0.50
Urban land-----	45	Not rated		Not rated		Not rated	
7A: Buckton-----	55	Very limited Flooding Seepage, bottom layer	1.00 1.00	Very limited Flooding	1.00	Not limited	
Weaver-----	30	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
8F: Caneyville-----	60	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00 1.00	Very limited Slope Depth to bedrock Too clayey Hard to compact	1.00 1.00 1.00 1.00

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8F: Frederick-----	20	Very limited Slope Too clayey	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey Hard to compact	1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
9C: Carbo, very rocky---	55	Very limited Depth to bedrock Too clayey Slope	1.00 1.00 0.04	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Too clayey Hard to compact Slope	1.00 1.00 1.00 0.04
Opequon, very rocky-----	30	Very limited Depth to bedrock Too clayey Slope	1.00 1.00 0.04	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Too clayey Hard to compact Slope	1.00 1.00 1.00 0.04
9E: Carbo, very rocky---	50	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Too clayey Hard to compact	1.00 1.00 1.00 1.00

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9E: Opequon, very rocky-----	35	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Too clayey Hard to compact	1.00 1.00 1.00 1.00
10F: Carbo-----	55	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Too clayey Hard to compact	1.00 1.00 1.00 1.00
Opequon-----	25	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Too clayey Hard to compact	1.00 1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
11B: Cottonbend-----	85	Not limited		Not limited		Not limited	
11C: Cottonbend-----	85	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
12A: Coursey, rarely flooded-----	80	Very limited Depth to saturated zone Too clayey Flooding	1.00 0.50 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Somewhat limited Depth to saturated zone Too clayey	0.86 0.50
13B: Coursey-----	80	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Too clayey	0.86 0.50
14C: Dekalb, very stony-----	50	Very limited Depth to bedrock Seepage, bottom layer Large stones Slope	1.00 1.00 0.58 0.04	Very limited Seepage Depth to bedrock Slope	1.00 1.00 0.04	Very limited Depth to bedrock Seepage Large stones Slope	1.00 1.00 0.58 0.04
Lehew, very stony---	20	Very limited Depth to bedrock Seepage, bottom layer Large stones Slope	1.00 1.00 1.00 0.04	Very limited Depth to bedrock Seepage Slope	1.00 1.00 0.04	Very limited Depth to bedrock Seepage Large stones Slope	1.00 1.00 1.00 0.04

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14C: Berks, very stony---	15	Very limited					
		Depth to bedrock	1.00	Very limited		Very limited	
		Seepage, bottom	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		layer		Seepage	1.00	Seepage	0.21
		Slope	0.04	Slope	0.04	Gravel content	0.13
						Slope	0.04
14E: Dekalb, very stony-----	50	Very limited					
		Slope	1.00	Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom	1.00	Seepage	1.00	Depth to bedrock	1.00
		layer		Depth to bedrock	1.00	Seepage	1.00
		Large stones	0.58			Large stones	0.58
Lehew, very stony---	20	Very limited					
		Slope	1.00	Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		layer		Seepage	1.00	Seepage	1.00
		Large stones	1.00			Large stones	1.00
Berks, very stony---	15	Very limited					
		Slope	1.00	Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		layer		Seepage	1.00	Seepage	0.21
						Gravel content	0.13

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14F: Dekalb, very stony-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Seepage	1.00
		Large stones	0.58			Large stones	0.58
Lehew, very stony---	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Large stones	1.00			Large stones	1.00
Berks, very stony---	15	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.21
						Gravel content	0.13
15E: Dekalb, extremely stony-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Seepage	1.00
		Large stones	0.58			Large stones	0.58

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15E: Lehew, extremely stony-----	30	Very limited Slope Depth to bedrock Seepage, bottom layer Large stones	1.00 1.00 1.00 1.00	Very limited Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited Slope Depth to bedrock Seepage Large stones	1.00 1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
15F: Dekalb, extremely stony-----	50	Very limited Slope Depth to bedrock Seepage, bottom layer Large stones	1.00 1.00 1.00 0.58	Very limited Slope Seepage Depth to bedrock	1.00 1.00 1.00	Very limited Slope Depth to bedrock Seepage Large stones	1.00 1.00 1.00 0.58
Lehew, extremely stony-----	20	Very limited Slope Depth to bedrock Seepage, bottom layer Large stones	1.00 1.00 1.00 1.00	Very limited Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited Slope Depth to bedrock Seepage Large stones	1.00 1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	



Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16C: Dekalb, very stony-----	60	Very limited Depth to bedrock Seepage, bottom layer Large stones Slope	1.00 1.00 0.58 0.37	Very limited Seepage Depth to bedrock Slope	1.00 1.00 0.37	Very limited Depth to bedrock Seepage Large stones Slope	1.00 1.00 0.58 0.37
Lily, very stony----	30	Very limited Depth to bedrock Seepage, bottom layer Too clayey Slope	1.00 1.00 0.50 0.37	Very limited Depth to bedrock Seepage Slope	1.00 1.00 0.37	Very limited Depth to bedrock Seepage Too clayey Slope	1.00 0.50 0.50 0.37
16E: Dekalb, very stony-----	50	Very limited Slope Depth to bedrock Seepage, bottom layer Large stones	1.00 1.00 1.00 0.58	Very limited Slope Seepage Depth to bedrock	1.00 1.00 1.00	Very limited Slope Depth to bedrock Seepage Large stones	1.00 1.00 1.00 0.58
Lily, very stony----	40	Very limited Slope Depth to bedrock Seepage, bottom layer Too clayey	1.00 1.00 1.00 0.50	Very limited Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited Slope Depth to bedrock Seepage Too clayey	1.00 1.00 0.50 0.50

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17F: Dekalb, very stony-----	75	Very limited Slope Depth to bedrock Seepage, bottom layer Large stones	1.00 1.00 1.00 0.58	Very limited Slope Seepage Depth to bedrock	1.00 1.00 1.00	Very limited Slope Depth to bedrock Seepage Large stones	1.00 1.00 1.00 0.58
Lily, very stony----	20	Very limited Slope Depth to bedrock Seepage, bottom layer Too clayey	1.00 1.00 1.00 0.50	Very limited Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited Slope Depth to bedrock Seepage Too clayey	1.00 1.00 0.50 0.50
18A: Derroc-----	85	Very limited Flooding Seepage, bottom layer Large stones Too sandy	1.00 1.00 0.54 0.50	Very limited Flooding Seepage	1.00 1.00	Very limited Seepage Large stones Too sandy	1.00 0.54 0.50
19C: Edneytown-----	90	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.37	Very limited Seepage Slope	1.00 0.37	Somewhat limited Seepage Slope	0.50 0.37

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
19D: Edneytown-----	90	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Seepage	0.50
		Seepage, bottom layer	1.00				
20C: Edneytown, very stony-----	60	Very limited Depth to bedrock	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.50
		Seepage, bottom layer	1.00	Slope	0.37	Slope	0.37
		Slope	0.37				
Peaks, very stony---	35	Very limited Depth to bedrock	1.00	Very limited Seepage	1.00	Very limited Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Seepage	1.00
		Slope	0.37	Slope	0.37	Gravel content Slope	1.00 0.37
20E: Edneytown, very stony-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Seepage	0.50
		Seepage, bottom layer	1.00				

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20E: Peaks, very stony----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Seepage	1.00
						Gravel content	1.00
20F: Edneytown, very stony-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Seepage	0.50
		Seepage, bottom layer	1.00				
21B: Escatawba-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Seepage	1.00
						Gravel content	1.00
21C: Escatawba-----	80	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.19	Somewhat limited Too clayey Depth to saturated zone	0.50 0.47
		Too clayey	0.50				
21C: Escatawba-----	80	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Slope Depth to saturated zone	0.37 0.19	Somewhat limited Too clayey Depth to saturated zone	0.50 0.47
		Too clayey	0.50				
		Slope	0.37			Slope	0.37

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
22B: Frederick-----	85	Very limited Too clayey	1.00	Not limited		Very limited Too clayey Hard to compact	1.00 1.00
22C: Frederick-----	80	Very limited Too clayey Slope	1.00 0.37	Somewhat limited Slope	0.37	Very limited Too clayey Hard to compact Slope	1.00 1.00 0.37
22D: Frederick-----	80	Very limited Slope Too clayey	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey Hard to compact	1.00 1.00 1.00
23E: Frederick-----	65	Very limited Slope Too clayey	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey Hard to compact	1.00 1.00 1.00
Caneyville-----	30	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Too clayey Hard to compact	1.00 1.00 1.00 1.00

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
24C: Frederick, very rocky-----	45	Very limited Too clayey Slope	1.00 0.04	Somewhat limited Slope	0.04	Very limited Too clayey Hard to compact Slope	1.00 1.00 0.04
Caneyville, very rocky-----	35	Very limited Depth to bedrock Too clayey Slope	1.00 1.00 0.04	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Too clayey Hard to compact Slope	1.00 1.00 1.00 0.04
24E: Frederick, very rocky-----	40	Very limited Slope Too clayey	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey Hard to compact	1.00 1.00 1.00
Caneyville, very rocky-----	38	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Too clayey Hard to compact	1.00 1.00 1.00 1.00
25C: Frederick-----	60	Very limited Too clayey Slope	1.00 0.37	Somewhat limited Slope	0.37	Very limited Too clayey Hard to compact Slope	1.00 1.00 0.37

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25C: Watahala-----	30	Somewhat limited Slope	0.37	Very limited Seepage Slope	1.00 0.37	Somewhat limited Seepage Slope Gravel content	0.50 0.37 0.48
25D: Frederick-----	45	Very limited Slope Too clayey	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey Hard to compact	1.00 1.00 1.00
Watahala-----	35	Very limited Slope	1.00	Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage Gravel content	1.00 0.50 0.48
25E: Frederick-----	50	Very limited Slope Too clayey	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey Hard to compact	1.00 1.00 1.00
Watahala-----	40	Very limited Slope	1.00	Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage Gravel content	1.00 0.50 0.48
26A: Gladehill-----	85	Very limited Flooding Seepage, bottom layer	1.00 1.00	Very limited Flooding Seepage	1.00 1.00	Somewhat limited Seepage	0.50

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
27B: Groseclose-----	80	Very limited Too clayey	1.00	Not limited		Very limited Too clayey Hard to compact	1.00 1.00
27C: Groseclose-----	80	Very limited Too clayey Slope	1.00 0.37	Somewhat limited Slope	0.37	Very limited Too clayey Hard to compact Slope	1.00 1.00 0.37
27D: Groseclose-----	80	Very limited Slope Too clayey	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey Hard to compact	1.00 1.00 1.00
28E: Groseclose-----	50	Very limited Slope Too clayey	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey Hard to compact	1.00 1.00 1.00
Needmore-----	40	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50
29C: Groseclose-----	35	Very limited Too clayey	1.00	Not limited		Very limited Too clayey Hard to compact	1.00 1.00



Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29C: Needmore-----	30	Very limited Depth to bedrock Slope Too clayey	1.00 0.04 0.50	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope Too clayey	1.00 0.04 0.50
Urban land-----	25	Not rated		Not rated		Not rated	
30A: Holly-----	50	Very limited Ponding Flooding Depth to saturated zone Seepage, bottom layer	1.00 1.00 1.00 1.00	Very limited Flooding Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
Orrville-----	45	Very limited Ponding Flooding Depth to saturated zone Seepage, bottom layer	1.00 1.00 1.00 1.00	Very limited Flooding Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
31A: Ingledove-----	85	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Not limited	

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
32A: Irongate-----	85	Very limited Flooding Depth to saturated zone Seepage, bottom layer	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Somewhat limited Depth to saturated zone	0.94
33C: Litiz-----	35	Very limited Depth to bedrock Slope	1.00 0.37	Very limited Depth to bedrock Slope	1.00 0.37	Very limited Depth to bedrock Slope Gravel content	1.00 0.37 0.85
Chiswell-----	30	Very limited Depth to bedrock Slope	1.00 0.37	Very limited Depth to bedrock Slope	1.00 0.37	Very limited Depth to bedrock Slope Gravel content	1.00 0.37 0.27
Groseclose-----	20	Very limited Too clayey Slope	1.00 0.37	Somewhat limited Slope	0.37	Very limited Too clayey Hard to compact Slope	1.00 1.00 0.37
33E: Litiz-----	35	Very limited Slope Depth to bedrock	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00 1.00	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.85

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33E: Chiswell-----	25	Very limited Slope Depth to bedrock	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00 1.00	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.27
Groseclose-----	25	Very limited Slope Too clayey	1.00 1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey Hard to compact	1.00 1.00 1.00
33F: Litz-----	35	Very limited Slope Depth to bedrock	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00 1.00	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.85
Chiswell-----	30	Very limited Slope Depth to bedrock	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00 1.00	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.27
Groseclose-----	20	Very limited Slope Too clayey	1.00 1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey Hard to compact	1.00 1.00 1.00
34C: Litz, very stony----	55	Very limited Depth to bedrock Slope	1.00 0.04 1.00	Very limited Depth to bedrock Slope	1.00 0.04 1.00	Very limited Depth to bedrock Slope Gravel content	1.00 0.04 0.85

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34C: Needmore, very stony-----	35	Very limited Depth to bedrock Slope Too clayey	1.00 0.04 0.50	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope Too clayey	1.00 0.04 0.50
34E: Litz, very stony----	55	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.85
Needmore, very stony-----	35	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50
34F: Litz, very stony----	55	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.85
Needmore, very stony-----	35	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
35C: Lodi-----	40	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Somewhat limited Too clayey Slope	0.50 0.37
McClung-----	35	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37
Lily-----	20	Very limited Depth to bedrock Seepage, bottom layer Too clayey Slope	1.00 1.00 0.50 0.37	Very limited Depth to bedrock Seepage Slope	1.00 1.00 0.37	Very limited Depth to bedrock Seepage Too clayey Slope	1.00 0.50 0.50 0.37
35E: Lodi-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
McClung-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Lily-----	25	Very limited Slope Depth to bedrock Seepage, bottom layer Too clayey	1.00 1.00 1.00 0.50	Very limited Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited Slope Depth to bedrock Seepage Too clayey	1.00 1.00 0.50 0.50

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
36C: Lostcove, extremely stony-----	80	Very limited					
		Depth to		Very limited			
		saturated zone	1.00	Depth to	1.00	Very limited	1.00
		large stones	1.00	saturated zone		Large stones	0.50
		Too clayey	0.50	Slope	0.37	Too clayey	0.37
37E: Lostcove, very stony-----	80	Slope	0.37				
37F: Lostcove, very stony-----	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to	1.00	Depth to	1.00	Large stones	1.00
		saturated zone		saturated zone		Too clayey	0.50
		Large stones	1.00				
37F: Lostcove, very stony-----	80	Too clayey	0.50				
37F: Lostcove, very stony-----	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to	1.00	Depth to	1.00	Large stones	1.00
		saturated zone		saturated zone		Too clayey	0.50
		Large stones	1.00				
37F: Lostcove, very stony-----	80	Too clayey	0.50				

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
38E: Marbleyard, extremely stony----	70	Very limited					
		Slope	1.00	Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		layer		Seepage	1.00	Gravel content	0.55
Rock outcrop-----	15	Large stones	0.30			Seepage	0.50
						Large stones	0.30
		Not rated		Not rated		Not rated	
39F: Marbleyard, extremely stony----	45	Very limited					
		Slope	1.00	Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		layer		Seepage	1.00	Gravel content	0.55
Sherando, extremely stony-----	30	Large stones	0.30			Seepage	0.50
						Large stones	0.30
		Very limited					
		Slope	1.00	Very limited		Very limited	
Rock outcrop-----	20	Seepage, bottom	1.00	Slope	1.00	Slope	1.00
		layer		Seepage	1.00	Seepage	1.00
		Too sandy	0.50			Gravel content	0.88
						Too sandy	0.50
		Not rated		Not rated		Not rated	

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
39G: Marbleyard, extremely stony----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	0.55
		Large stones	0.30			Seepage	0.50
						Large stones	0.30
Sherando, extremely stony-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	0.50			Gravel content	0.88
						Too sandy	0.50
Rock outcrop-----	20	Not rated		Not rated		Not rated	
40A: Maurertown-----	50	Very limited Ponding	1.00	Very limited Ponding	1.00	Very limited Ponding	1.00
		Too clayey	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	0.40	Too clayey	1.00
		Flooding	0.40			Hard to compact	1.00
Toms-----	45	Very limited Ponding	1.00	Very limited Ponding	1.00	Very limited Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50	Flooding	0.40	Too clayey	0.50
		Flooding	0.40				



Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
41C: McCamy, very stony-----	85	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.04	Very limited Depth to bedrock Seepage Slope	1.00 1.00 0.04	Very limited Depth to bedrock Seepage Gravel content Slope	1.00 0.52 0.07 0.04
42F: McClung, very stony-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Caneyville, very stony-----	30	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Too clayey Hard to compact	1.00 1.00 1.00 1.00
Dekalb, very stony-----	25	Very limited Slope Depth to bedrock Seepage, bottom layer Large stones	1.00 1.00 1.00 0.58	Very limited Slope Seepage Depth to bedrock	1.00 1.00 1.00	Very limited Slope Depth to bedrock Seepage Large stones	1.00 1.00 1.00 0.58
43C: Needmore-----	60	Very limited Depth to bedrock Slope Too clayey	1.00 0.04 0.50	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope Too clayey	1.00 0.04 0.50

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
43C: Opequon-----	30	Very limited Depth to bedrock Too clayey Slope	1.00 1.00 0.04	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Too clayey Hard to compact Slope	1.00 1.00 1.00 0.04
43E: Needmore-----	55	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50
Opequon-----	35	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Too clayey Hard to compact	1.00 1.00 1.00 1.00
43F: Needmore-----	50	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50
Opequon-----	40	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Too clayey Hard to compact	1.00 1.00 1.00 1.00

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
44E: Needmore-----	70	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
Urban land-----	25	Not rated		Not rated		Not rated	
45B: Nicelytown-----	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
46B: Nicelytown-----	50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
Urban land-----	45	Not rated		Not rated		Not rated	
47C: Oriskany, extremely stony-----	65	Very limited Seepage, bottom layer	1.00	Very limited Seepage Slope	1.00	Somewhat limited Large stones	0.66
		Large stones	0.66		0.37	Seepage	0.50
		Slope	0.37			Slope	0.37

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47C: Laidig, extremely stony-----	25	Very limited					
		Depth to thick cemented pan	1.00	Very limited		Very limited	
		Depth to saturated zone	0.68	pan	1.00	Depth to cemented pan	1.00
		Slope	0.37	Depth to saturated zone	0.37	Slope	0.37
					0.04	Depth to saturated zone	0.24
47E: Oriskany, extremely stony-----	60	Very limited					
		Slope					
		Seepage, bottom layer	1.00	Very limited		Very limited	
		Large stones	0.66	Slope	1.00	Slope	1.00
				Seepage	1.00	Large stones	0.66
Laidig, extremely stony-----	30	Very limited					
		Slope					
		Depth to thick cemented pan	1.00	Very limited		Very limited	
		Depth to saturated zone	0.68	Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Depth to saturated zone	0.04	Depth to saturated zone	0.24
48F: Oriskany, extremely stony-----	80	Very limited					
		Slope					
		Seepage, bottom layer	1.00	Very limited		Very limited	
		Large stones	0.66	Slope	1.00	Slope	1.00
				Seepage	1.00	Large stones	0.66

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
49C: Oriskany, extremely stony-----	55	Very limited Seepage, bottom layer Large stones Slope	1.00 0.66 0.37	Very limited Seepage Slope	1.00 0.37	Somewhat limited Large stones Seepage Slope	0.66 0.50 0.37
Murrill, extremely stony-----	35	Somewhat limited Slope Too clayey	0.37 0.50	Somewhat limited Slope	0.37	Somewhat limited Slope Too clayey	0.37 0.50
49E: Oriskany, extremely stony-----	55	Very limited Slope Seepage, bottom layer Large stones	1.00 1.00 0.66	Very limited Slope Seepage	1.00 1.00	Very limited Slope Large stones Seepage	1.00 0.66 0.50
Murrill, extremely stony-----	35	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
49F: Oriskany, extremely stony-----	65	Very limited Slope Seepage, bottom layer Large stones	1.00 1.00 0.66	Very limited Slope Seepage	1.00 1.00	Very limited Slope Large stones Seepage	1.00 0.66 0.50

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
49F: Murrill, extremely stony-----	25	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
50E: Peaks, very rocky---	55	Very limited Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited Slope Seepage Depth to bedrock	1.00 1.00 1.00	Very limited Slope Depth to bedrock Seepage Gravel content	1.00 1.00 1.00 1.00
Edneytown, very rocky-----	40	Very limited Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage	1.00 0.50
50F: Peaks, very rocky---	55	Very limited Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited Slope Seepage Depth to bedrock	1.00 1.00 1.00	Very limited Slope Depth to bedrock Seepage Gravel content	1.00 1.00 1.00 1.00
Edneytown, very rocky-----	40	Very limited Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage	1.00 0.50

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
51A: Philo-----	75	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Somewhat limited Depth to saturated zone	0.91
52C: Pignut, very stony-----	50	Very limited Depth to bedrock Slope Too clayey	1.00 0.04 0.50	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope Too clayey	1.00 0.04 0.50
Myersville, very stony-----	40	Very limited Depth to bedrock Slope	1.00 0.04	Somewhat limited Depth to bedrock Slope	0.42 0.04	Somewhat limited Depth to bedrock Slope	0.42 0.04
53E: Pignut, very stony-----	90	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50
53F: Pignut, very stony-----	90	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50

Table 12.-Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
54: Pits-----	50	Not rated		Not rated		Not rated	
Dumps-----	45	Not rated		Not rated		Not rated	
55A: Pope-----	90	Very limited Flooding Seepage, bottom layer	1.00 1.00	Very limited Flooding Seepage	1.00 1.00	Somewhat limited Seepage Gravel content	0.50 0.20
56G: Rock outcrop-----	60	Not rated		Not rated		Not rated	
Opequon-----	25	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Too clayey Hard to compact	1.00 1.00 1.00 1.00
57A: Sensabaugh-----	40	Very limited Flooding Seepage, bottom layer	1.00 1.00 1.00	Very limited Flooding Seepage	1.00 1.00	Somewhat limited Seepage Gravel content	0.21 0.06
Lobdell-----	30	Very limited Flooding Depth to saturated zone Seepage, bottom layer	1.00 1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Depth to saturated zone Seepage	1.00 0.21



Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
57A: Derroc-----	20	Very limited Flooding Seepage, bottom layer Large stones Too sandy	1.00 1.00 0.54 0.50	Very limited Flooding Seepage	1.00 1.00	Very limited Seepage Large stones Too sandy	1.00 0.54 0.50
58B: Shottower-----	90	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
58C: Shottower-----	90	Somewhat limited Slope Too clayey	0.37 0.50	Somewhat limited Slope	0.37	Somewhat limited Slope Too clayey	0.37 0.50
58D: Shottower-----	85	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
59E: Shottower-----	85	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
60C: Shottower-----	50	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
Urban land-----	45	Not rated		Not rated		Not rated	

Table 12.-Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
61B: Slabtown-----	80	Very limited Too clayey Depth to saturated zone	1.00 0.96	Somewhat limited Depth to saturated zone	0.44	Very limited Too clayey Hard to compact Depth to saturated zone	1.00 1.00 0.68
61C: Slabtown-----	80	Very limited Too clayey Depth to saturated zone Slope	1.00 0.96 0.37	Somewhat limited Slope Depth to saturated zone	0.37 0.44	Very limited Too clayey Hard to compact Depth to saturate zone Slope	1.00 1.00 0.68 0.37
62: Slickens-----	100	Not rated		Not rated		Not rated	
63E: Stumptown, extremely stony----	40	Very limited Slope Depth to bedrock Seepage, bottom layer Large stones	1.00 1.00 1.00 0.77	Very limited Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited Slope Depth to bedrock Large stones Seepage Gravel content	1.00 1.00 0.77 0.50 0.08

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
63E: Marbleyard, extremely stony----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	0.55
		Large stones	0.30			Seepage	0.50
						Large stones	0.30
Rock outcrop-----	15	Not rated		Not rated		Not rated	
63F: Stumptown, extremely stony----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Large stones	0.77
		Large stones	0.77			Seepage	0.50
						Gravel content	0.08
Marbleyard, extremely stony----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	0.55
		Large stones	0.30			Seepage	0.50
						Large stones	0.30
Rock outcrop-----	15	Not rated		Not rated		Not rated	

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
63G: Stumptown, extremely stony----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Large stones	0.77
		Large stones	0.77			Seepage	0.50
						Gravel content	0.08
Marbleyard, extremely stony----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	0.55
		Large stones	0.30			Seepage	0.50
						Large stones	0.30
Rock outcrop-----	15	Not rated		Not rated		Not rated	
64E: Stumptown, very stony-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Large stones	0.77
		Large stones	0.77			Seepage	0.50
						Gravel content	0.08

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
64E: Sylco, very stony---	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.31
		Large stones	0.17			Gravel content	0.22
						Large stones	0.17
64F: Stumptown, very stony-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Large stones	0.77
		Large stones	0.77			Seepage	0.50
						Gravel content	0.08
Sylco, very stony---	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.31
		Large stones	0.17			Gravel content	0.22
						Large stones	0.17
65E: Sylco, very rocky---	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.31
		Large stones	0.17			Gravel content	0.22
						Large stones	0.17

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65E: Marbleyard, very rocky-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	0.55
		Large stones	0.30			Seepage	0.50
						Large stones	0.30
65F: Sylco, very rocky---	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.31
		Large stones	0.17			Gravel content	0.22
						Large stones	0.17
Marbleyard, very rocky-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	0.55
		Large stones	0.30			Seepage	0.50
						Large stones	0.30
65G: Sylco, very rocky---	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.31
		Large stones	0.17			Gravel content	0.22
						Large stones	0.17

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65G: Marbleyard, very rocky-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	0.55
		Large stones	0.30			Seepage	0.50
						Large stones	0.30
66C: Thunder, very bouldery-----	50	Very limited Large stones	1.00	Somewhat limited Slope	0.37	Very limited Large stones	1.00
		Seepage, bottom layer	1.00			Seepage	0.50
		Slope	0.37			Slope	0.37
Saunook, very bouldery-----	30	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37
		Too clayey	0.50			Too clayey	0.50
						Gravel content	0.01
66E: Thunder, very bouldery-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones	1.00			Large stones	1.00
		Seepage, bottom layer	1.00			Seepage	0.50

Table 12.-Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
66E: Saunook, very bouldery-----	30	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey Gravel content	1.00 0.50 0.01
66F: Thunder, very bouldery-----	50	Very limited Slope Large stones Seepage, bottom layer	1.00 1.00 1.00	Very limited Slope	1.00	Very limited Slope Large stones Seepage	1.00 1.00 0.50
Saunook, very bouldery-----	30	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey Gravel content	1.00 0.50 0.01
67C: Tumbling-----	50	Somewhat limited Slope Too clayey	0.37 0.50	Somewhat limited Slope	0.37	Somewhat limited Slope Too clayey	0.37 0.50
Vanella-----	40	Somewhat limited Slope Too clayey	0.37 0.50	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37



Table 12.-Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
67D: Tumbling-----	50	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
Vanella-----	40	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope	1.00
67E: Tumbling-----	50	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
Vanella-----	40	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope	1.00
68D: Tumbling-----	35	Somewhat limited Slope Too clayey	0.37 0.50	Somewhat limited Slope	0.37	Somewhat limited Slope Too clayey	0.37 0.50
Vanella-----	30	Somewhat limited Slope Too clayey	0.37 0.50	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37
Urban land-----	25	Not rated		Not rated		Not rated	

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
69A:							
Tygart-----	55	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Too clayey	1.00	Depth to	1.00	Depth to	1.00
		Depth to	1.00	saturated zone		saturated zone	
		saturated zone				Too clayey	1.00
Purdy-----	40	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
		Too clayey	0.50			Too clayey	0.50
70:							
Udorthents, refuse							
substratum-----	85	Not rated		Not rated		Not rated	
71:							
Udorthents-----	50	Not rated		Not rated		Not rated	
Urban land-----	45	Not rated		Not rated		Not rated	
72C:							
Unaka, very stony---	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom	1.00	Seepage	1.00	Gravel content	0.52
		layer		Slope	0.16	Seepage	0.50
		Slope	0.16			Slope	0.16
Plott, very stony---	30	Very limited		Very limited		Somewhat limited	
		Seepage, bottom	1.00	Seepage	1.00	Gravel content	0.57
		layer		Slope	0.16	Seepage	0.50
		Slope	0.16			Slope	0.16

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
72E: Unaka, very stony---	65	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content Seepage	0.52 0.50
Plott, very stony---	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content Seepage	0.57 0.50
73C: Vanella, very stony-----	50	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04
		Too clayey	0.50			Too clayey	0.50
Tumbling, very stony-----	40	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04
		Too clayey	0.50			Too clayey	0.50
73E: Vanella, very stony-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Too clayey	0.50			Too clayey	0.50
Tumbling, very stony-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Too clayey	0.50			Too clayey	0.50

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74C: Watahala, very stony-----	60	Very limited Too clayey Slope	1.00 0.37	Somewhat limited Slope	0.37	Very limited Too clayey Hard to compact Slope	1.00 1.00 0.37
Frederick, very stony-----	30	Very limited Too clayey Slope	1.00 0.37	Somewhat limited Slope	0.37	Very limited Too clayey Hard to compact Slope	1.00 1.00 0.37
74E: Watahala, very stony-----	50	Very limited Slope Too clayey	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey Hard to compact	1.00 1.00 1.00
Frederick, very stony-----	35	Very limited Slope Too clayey	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey Hard to compact	1.00 1.00 1.00
74F: Watahala, very stony-----	60	Very limited Slope Too clayey	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey Hard to compact	1.00 1.00 1.00

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74F: Frederick, very stony-----	20	Very limited Slope Too clayey	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey Hard to compact	1.00 1.00 1.00
75E: Weikert-----	45	Very limited Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Gravel content Seepage	1.00 1.00 0.56 0.50
Berks-----	30	Very limited Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited Slope Depth to bedrock Seepage Gravel content	1.00 1.00 0.21 0.13
Rough-----	20	Very limited Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Seepage Gravel content	1.00 1.00 1.00 0.95
75F: Weikert-----	45	Very limited Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Gravel content Seepage	1.00 1.00 0.56 0.50

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75F: Berks-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.21
						Gravel content	0.13
Rough-----	15	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00			Seepage	1.00
						Gravel content	0.95
76G: Weikert-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00			Gravel content	0.56
						Seepage	0.50
Rough-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00			Seepage	0.95
Rock outcrop-----	25	Not rated		Not rated		Not rated	
77C: Wintergreen-----	90	Very limited Too clayey Slope	1.00 0.37	Somewhat limited Slope	0.37	Very limited Too clayey Hard to compact Slope	1.00 1.00 0.37

Table 12.--Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
77D: Wintergreen-----	90	Very limited Slope Too clayey	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey Hard to compact	1.00 1.00 1.00
77E: Wintergreen-----	90	Very limited Slope Too clayey	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey Hard to compact	1.00 1.00 1.00
78E: Wintergreen, very stony-----	85	Very limited Slope Too clayey	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey Hard to compact	1.00 1.00 1.00
79A: Wolfgap-----	90	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Not limited	
80A: Wolfgap-----	35	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Not limited	
Derroc-----	30	Very limited Seepage, bottom layer Large stones Too sandy Flooding	1.00 0.54 0.50 0.40	Very limited Seepage Flooding	1.00 0.40	Very limited Seepage Large stones Too sandy	1.00 0.54 0.50

Table 12.-Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
80A: Urban land-----	25	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	



# Soil Survey of Rockbridge County, Virginia

Table 13.—Construction Materials, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1A: Alonzville, rarely flooded-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
2B: Alonzville-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
3B: Alonzville-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Urban land.	45	Not rated		Not rated	
4C: Berks-----	50	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Weikert-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
5A: Botetourt-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
6A: Botetourt-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Urban land.	45	Not rated		Not rated	
7A: Buckton-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.23
Weaver-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
8F: Caneyville-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

# Soil Survey of Rockbridge County, Virginia

Table 13.—Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
8F: Frederick-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop.	15	Not rated		Not rated	
9C: Carbo, very rocky---	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Opequon, very rocky-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
9E: Carbo, very rocky---	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Opequon, very rocky-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
10F: Carbo-----	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Opequon-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop.	15	Not rated		Not rated	
11B: Cottonbend-----	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
11C: Cottonbend-----	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
12A: Coursey, rarely flooded-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
13B: Coursey-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

# Soil Survey of Rockbridge County, Virginia

Table 13.—Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
14C:					
Dekalb, very stony-----	50	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Lehew, very stony---	20	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Berks, very stony---	15	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
14E:					
Dekalb, very stony-----	50	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Lehew, very stony---	20	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Berks, very stony---	15	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
14F:					
Dekalb, very stony-----	50	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Lehew, very stony---	20	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Berks, very stony---	15	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
15E:					
Dekalb, extremely stony-----	50	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Lehew, extremely stony-----	30	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Rock outcrop.	15	Not rated		Not rated	
15F:					
Dekalb, extremely stony-----	50	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00

# Soil Survey of Rockbridge County, Virginia

Table 13.—Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
15F: Lehew, extremely stony-----	20	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Rock outcrop.	15	Not rated		Not rated	
16C: Dekalb, very stony-----	60	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Lily, very stony----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
16E: Dekalb, very stony-----	50	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Lily, very stony----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
17F: Dekalb, very stony-----	75	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Lily, very stony----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
18A: Derroc-----	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.03
19C: Edneytown-----	90	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.04
19D: Edneytown-----	90	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.04
20C: Edneytown, very stony-----	60	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.04
Peaks, very stony---	35	Fair		Fair	
		Thickest layer	0.19	Bottom layer	0.04
		Bottom layer	0.25	Thickest layer	0.04

# Soil Survey of Rockbridge County, Virginia

Table 13.—Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
20E: Edneytown, very stony-----	60	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.04
Peaks, very stony---	35	Fair		Fair	
		Thickest layer	0.19	Bottom layer	0.04
		Bottom layer	0.25	Thickest layer	0.04
20F: Edneytown, very stony-----	60	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.04
Peaks, very stony---	35	Fair		Fair	
		Thickest layer	0.19	Bottom layer	0.04
		Bottom layer	0.25	Thickest layer	0.04
21B: Escatawba-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
21C: Escatawba-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
22B: Frederick-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
22C: Frederick-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
22D: Frederick-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
23E: Frederick-----	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Caneyville-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
24C: Frederick, very rocky-----	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

# Soil Survey of Rockbridge County, Virginia

Table 13.—Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
24C: Caneyville, very rocky-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
24E: Frederick, very rocky-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Caneyville, very rocky-----	38	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
25C: Frederick-----	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Watahala-----	30	Fair		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.12	Thickest layer	0.00
25D: Frederick-----	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Watahala-----	35	Fair		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.12	Thickest layer	0.00
25E: Frederick-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Watahala-----	40	Fair		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.12	Thickest layer	0.00
26A: Gladehill-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
27B: Groseclose-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
27C: Groseclose-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
27D: Groseclose-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

# Soil Survey of Rockbridge County, Virginia

Table 13.—Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
28E:					
Groseclose-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Needmore-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
29C:					
Groseclose-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Needmore-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land.	25	Not rated		Not rated	
30A:					
Holly-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Orrville-----	45	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.05	Thickest layer	0.00
31A:					
Ingledove-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
32A:					
Irongate-----	85	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
33C:					
Litz-----	35	Fair		Poor	
		Thickest layer	0.20	Bottom layer	0.00
		Bottom layer	0.14	Thickest layer	0.00
Chiswell-----	30	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.26	Thickest layer	0.00
Groseclose-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
33E:					
Litz-----	35	Fair		Poor	
		Thickest layer	0.20	Bottom layer	0.00
		Bottom layer	0.14	Thickest layer	0.00
Chiswell-----	25	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.26	Thickest layer	0.00

# Soil Survey of Rockbridge County, Virginia

Table 13.—Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
33E: Groseclose-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
33F: Litz-----	35	Fair		Poor	
		Thickest layer	0.20	Bottom layer	0.00
		Bottom layer	0.14	Thickest layer	0.00
Chiswell-----	30	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.26	Thickest layer	0.00
Groseclose-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
34C: Litz, very stony----	55	Fair		Poor	
		Thickest layer	0.20	Bottom layer	0.00
		Bottom layer	0.14	Thickest layer	0.00
Needmore, very stony-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
34E: Litz, very stony----	55	Fair		Poor	
		Thickest layer	0.20	Bottom layer	0.00
		Bottom layer	0.14	Thickest layer	0.00
Needmore, very stony-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
34F: Litz, very stony----	55	Fair		Poor	
		Thickest layer	0.20	Bottom layer	0.00
		Bottom layer	0.14	Thickest layer	0.00
Needmore, very stony-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
35C: Lodi-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
McClung-----	35	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.04
Lily-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00



# Soil Survey of Rockbridge County, Virginia

Table 13.—Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
35E: Lodi-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
McClung-----	30	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.04
Lily-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
36C: Lostcove, extremely stony-----	80	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
37E: Lostcove, very stony-----	80	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
37F: Lostcove, very stony-----	80	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
38E: Marbleyard, extremely stony----	70	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.03
		Bottom layer	0.31	Thickest layer	0.00
Rock outcrop.	15	Not rated		Not rated	
39F: Marbleyard, extremely stony----	45	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.03
		Bottom layer	0.31	Thickest layer	0.00
Sherando, extremely stony-----	30	Fair		Fair	
		Thickest layer	0.05	Thickest layer	0.03
		Bottom layer	0.00	Bottom layer	0.00
Rock outcrop.	20	Not rated		Not rated	
39G: Marbleyard, extremely stony----	45	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.03
		Bottom layer	0.31	Thickest layer	0.00
Sherando, extremely stony-----	30	Fair		Fair	
		Thickest layer	0.05	Thickest layer	0.03
		Bottom layer	0.00	Bottom layer	0.00

# Soil Survey of Rockbridge County, Virginia

Table 13.—Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
39G: Rock outcrop.	20	Not rated		Not rated	
40A: Maurertown-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Toms-----	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
41C: McCamy, very stony-----	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
42F: McClung, very stony-----	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.04
Caneyville, very stony-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Dekalb, very stony-----	25	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
43C: Needmore-----	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Opequon-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
43E: Needmore-----	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Opequon-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
43F: Needmore-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Opequon-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

# Soil Survey of Rockbridge County, Virginia

Table 13.—Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
44E: Needmore-----	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land.	25	Not rated		Not rated	
45B: Nicelytown-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
46B: Nicelytown-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land.	45	Not rated		Not rated	
47C: Oriskany, extremely stony-----	65	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Laidig, extremely stony-----	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
47E: Oriskany, extremely stony-----	60	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Laidig, extremely stony-----	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
48F: Oriskany, extremely stony-----	80	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
49C: Oriskany, extremely stony-----	55	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Murrill, extremely stony-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
49E: Oriskany, extremely stony-----	55	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

# Soil Survey of Rockbridge County, Virginia

Table 13.—Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
49E: Murrill, extremely stony-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
49F: Oriskany, extremely stony-----	65	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Murrill, extremely stony-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
50E: Peaks, very rocky---	55	Fair		Fair	
		Thickest layer	0.19	Bottom layer	0.04
		Bottom layer	0.25	Thickest layer	0.04
Edneytown, very rocky-----	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.04
50F: Peaks, very rocky---	55	Fair		Fair	
		Thickest layer	0.19	Bottom layer	0.04
		Bottom layer	0.25	Thickest layer	0.04
Edneytown, very rocky-----	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.04
51A: Philo-----	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
52C: Pignut, very stony-----	50	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Myersville, very stony-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
53E: Pignut, very stony-----	90	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

# Soil Survey of Rockbridge County, Virginia

Table 13.—Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
53F: Pignut, very stony-----	90	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
54: Pits.	50	Not rated		Not rated	
Dumps.	45	Not rated		Not rated	
55A: Pope-----	90	Fair Thickest layer Bottom layer	 0.00 0.18	Fair Thickest layer Bottom layer	 0.00 0.07
56G: Rock outcrop.	60	Not rated		Not rated	
Opequon-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
57A: Sensabaugh-----	40	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Lobdell-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.03
Derroc-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.03 0.03
58B: Shottower-----	90	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
58C: Shottower-----	90	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
58D: Shottower-----	85	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
59E: Shottower-----	85	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
60C: Shottower-----	50	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Urban land.	45	Not rated		Not rated	

# Soil Survey of Rockbridge County, Virginia

Table 13.—Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
61B: Slabtown-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
61C: Slabtown-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
62: Slickens.	100	Not rated		Not rated	
63E: Stumptown, extremely stony----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Marbleyard, extremely stony----	35	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.03
		Bottom layer	0.31	Thickest layer	0.00
Rock outcrop.	15	Not rated		Not rated	
63F: Stumptown, extremely stony----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Marbleyard, extremely stony----	35	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.03
		Bottom layer	0.31	Thickest layer	0.00
Rock outcrop.	15	Not rated		Not rated	
63G: Stumptown, extremely stony----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Marbleyard, extremely stony----	35	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.03
		Bottom layer	0.31	Thickest layer	0.00
Rock outcrop.	15	Not rated		Not rated	
64E: Stumptown, very stony-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Sylco, very stony---	45	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

# Soil Survey of Rockbridge County, Virginia

Table 13.—Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
64F: Stumptown, very stony-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Sylco, very stony---	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
65E: Sylco, very rocky---	45	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Marbleyard, very rocky-----	40	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.03
		Bottom layer	0.31	Thickest layer	0.00
65F: Sylco, very rocky---	50	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Marbleyard, very rocky-----	45	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.03
		Bottom layer	0.31	Thickest layer	0.00
65G: Sylco, very rocky---	50	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Marbleyard, very rocky-----	35	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.03
		Bottom layer	0.31	Thickest layer	0.00
66C: Thunder, very bouldery-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Saunook, very bouldery-----	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
66E: Thunder, very bouldery-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Saunook, very bouldery-----	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

# Soil Survey of Rockbridge County, Virginia

Table 13.—Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
66F: Thunder, very bouldery-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Saunook, very bouldery-----	30	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
67C: Tumbling-----	50	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Vanella-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
67D: Tumbling-----	50	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Vanella-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
67E: Tumbling-----	50	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Vanella-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
68D: Tumbling-----	35	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Vanella-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Urban land.	25	Not rated		Not rated	
69A: Tygart-----	55	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Purdy-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
70: Udorthents, refuse substratum.	85	Not rated		Not rated	



# Soil Survey of Rockbridge County, Virginia

Table 13.—Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
71:					
Udorthents.	50	Not rated		Not rated	
Urban land.	45	Not rated		Not rated	
72C:					
Unaka, very stony---	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Plott, very stony---	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
72E:					
Unaka, very stony---	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Plott, very stony---	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
73C:					
Vanella, very stony-----	50	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.04
Tumbling, very stony-----	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
73E:					
Vanella, very stony-----	50	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.04
Tumbling, very stony-----	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
74C:					
Watahala, very stony-----	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Frederick, very stony-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
74E:					
Watahala, very stony-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

# Soil Survey of Rockbridge County, Virginia

Table 13.—Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
74E: Frederick, very stony-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
74F: Watahala, very stony-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Frederick, very stony-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
75E: Weikert-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Berks-----	30	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Rough-----	20	Fair Thickest layer Bottom layer	 0.00 0.17	Poor Bottom layer Thickest layer	 0.00 0.00
75F: Weikert-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Berks-----	30	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Rough-----	15	Fair Thickest layer Bottom layer	 0.00 0.17	Poor Bottom layer Thickest layer	 0.00 0.00
76G: Weikert-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Rough-----	30	Fair Thickest layer Bottom layer	 0.00 0.17	Poor Bottom layer Thickest layer	 0.00 0.00
Rock outcrop.	25	Not rated		Not rated	
77C: Wintergreen-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
77D: Wintergreen-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

# Soil Survey of Rockbridge County, Virginia

Table 13.—Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
77E: Wintergreen-----	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
78E: Wintergreen, very stony-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
79A: Wolfgap-----	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
80A: Wolfgap-----	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
Derroc-----	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.03
Urban land.	25	Not rated		Not rated	
W: Water.	100	Not rated		Not rated	

Table 13.—Construction Materials, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1A: Alonzville, rarely flooded-----	80	Fair					
		Too acid	0.46	Good		Fair	0.76
		Low content of organic matter	0.88			Rock fragments Too acid	0.95
2B: Alonzville-----	80	Fair		Good		Fair	
		Too acid	0.46			Rock fragments	0.76
		Low content of organic matter	0.88			Too acid	0.95
3B: Alonzville-----	50	Fair		Good		Fair	
		Too acid	0.46			Rock fragments	0.76
		Low content of organic matter	0.88			Too acid	0.95
Urban land-----	45	Not rated		Not rated		Not rated	
4C: Berks-----	50	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to bedrock	0.00	Rock fragments	0.00
		Droughty	0.23	Cobble content	0.88	Depth to bedrock	0.54
		Too acid	0.50			Slope	0.63

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
4C: Weikert-----	40	Poor Droughty Depth to bedrock Low content of organic matter	0.00 0.00 0.12	Poor Depth to bedrock Cobble content	0.00 0.69	Poor Rock fragments Depth to bedrock Slope	0.00 0.00 0.63
5A: Botetourt-----	90	Fair Low content of organic matter Too acid	0.12 0.61	Fair Wetness	0.53	Fair Wetness	0.53
6A: Botetourt-----	50	Fair Low content of organic matter Too acid	0.12 0.61	Fair Wetness	0.53	Fair Wetness	0.53
Urban land-----	45	Not rated		Not rated		Not rated	
7A: Buckton-----	55	Fair Water erosion Low content of organic matter	0.68 0.50	Poor Low strength	0.00	Good	
Weaver-----	30	Fair Water erosion Low content of organic matter Carbonate content	0.90 0.50 0.92	Fair Wetness Low strength	0.14 0.22	Fair Wetness Hard to reclaim (rock fragments)	0.14 0.95

Table 13.-Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8F: Caneyville-----	60	Poor					
		Too clayey	0.00	Poor		Poor	
		Droughty	0.06	Depth to bedrock	0.00	Too clayey	0.00
		Low content of organic matter	0.02	Slope	0.00	Slope	0.00
Frederick-----	20			Low strength	0.00	Depth to bedrock	0.16
		Poor					
		Too clayey	0.00	Poor		Poor	
Rock outcrop-----	15	Low content of organic matter	0.12	Slope	0.00	Too clayey	0.00
		Too acid	0.74	Shrink-swell	0.87	Slope	0.00
		Not rated		Not rated		Not rated	
9C: Carbo, very rocky---	55						
		Poor				Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.00	Low strength	0.00	Depth to bedrock	0.16
Opequon, very rocky-----	30	Low content of organic matter	0.12	Shrink-swell	0.12	Slope	0.96
		Poor					
		Droughty	0.00	Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Too clayey	0.00	Shrink-swell	0.12	Too clayey	0.00
				Low strength	0.00	Slope	0.96

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9E: Carbo, very rocky---	50	Poor					
		Too clayey	0.00	Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Low content of organic matter	0.12	Low strength	0.00	Slope	0.00
				Shrink-swell	0.12	Depth to bedrock	0.16
Opequon, very rocky-----	35	Poor					
		Droughty	0.00	Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Too clayey	0.00	Shrink-swell	0.12	Slope	0.00
				Slope	0.00	Too clayey	0.00
10F: Carbo-----	55	Poor					
		Too clayey	0.00	Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Low content of organic matter	0.12	Slope	0.00	Slope	0.00
				Low strength	0.00	Depth to bedrock	0.16
Opequon-----	25	Poor					
		Droughty	0.00	Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Too clayey	0.00	Slope	0.00	Slope	0.00
				Shrink-swell	0.12	Too clayey	0.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
11B: Cottonbend-----	85	Fair					
		Low content of organic matter	0.12	Good		Poor	
		Water erosion	0.99			Hard to reclaim (rock fragments)	0.00
		Too acid	0.97				

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
11C: Cottonbend-----	85	Fair Low content of organic matter Water erosion Too acid	0.12 0.99 0.97	Good		Poor Hard to reclaim (rock fragments) Slope	0.00 0.63
12A: Coursey, rarely flooded-----	80	Fair Low content of organic matter Too acid	0.12 0.46	Fair Low strength Wetness	0.22 0.53	Fair Wetness Too acid	0.53 0.95
13B: Coursey-----	80	Fair Low content of organic matter Too acid	0.12 0.46	Fair Low strength Wetness	0.22 0.53	Fair Wetness Too acid	0.53 0.95
14C: Dekalb, very stony-----	50	Poor Droughty Low content of organic matter Too acid	0.00 0.12 0.50	Poor Depth to bedrock Cobble content	0.00 0.00	Poor Rock fragments Too acid Depth to bedrock	0.00 0.59 0.72
Lehew, very stony---	20	Poor Droughty Low content of organic matter Too acid	0.03 0.12 0.50	Poor Depth to bedrock Cobble content	0.00 0.00	Poor Rock fragments Too acid Slope	0.00 0.59 0.96 0



Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14C: Berks, very stony---	15	Fair					
		Low content of organic matter	0.12	Poor		Poor	
		Droughty	0.23	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Cobble content	0.88	Depth to bedrock	0.54
						Too acid	0.76
14E: Dekalb, very stony-----	50	Poor					
		Droughty	0.00	Poor		Poor	
		Low content of organic matter	0.12	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Cobble content	0.00	Slope	0.00
				Slope	0.00	Too acid	0.59
Lehew, very stony---	20	Poor					
		Low content of organic matter	0.12	Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.03	Cobble content	0.00	Rock fragments	0.00
				Slope	0.00	Too acid	0.59
Berks, very stony---	15	Fair					
		Low content of organic matter	0.12	Poor		Poor	
		Droughty	0.23	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
				Cobble content	0.88	Depth to bedrock	0.54

Table 13.--Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14F: Dekalb, very stony-----	50	Poor					
		Droughty	0.00	Depth to bedrock	0.00	Poor	0.00
		Low content of organic matter	0.12	Slope	0.00	Rock fragments	0.00
		Too acid	0.50	Cobble content	0.00	Too acid	0.59
Lehew, very stony---	20	Poor					
		Low content of organic matter	0.12	Depth to bedrock	0.00	Poor	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
		Droughty	0.03	Cobble content	0.00	Rock fragments	0.59
Berks, very stony---	15	Fair					
		Low content of organic matter	0.12	Depth to bedrock	0.00	Poor	0.00
		Droughty	0.23	Slope	0.00	Rock fragments	0.00
		Too acid	0.50	Cobble content	0.88	Depth to bedrock	0.54
15E: Dekalb, extremely stony-----	50	Poor					
		Droughty	0.00	Depth to bedrock	0.00	Poor	0.00
		Low content of organic matter	0.12	Cobble content	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Too acid	0.59

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15E: Lehew, extremely stony-----	30	Poor					
		Droughty	0.03	Poor		Poor	
		Low content of organic matter	0.12	Slope	0.00	Rock fragments	0.00
		Too acid	0.50	Depth to bedrock	0.00	Slope	0.00
				Cobble content	0.00	Too acid	0.59
Rock outcrop-----	15	Not rated					
				Not rated		Not rated	
15F: Dekalb, extremely stony-----	50	Poor					
		Droughty	0.00	Poor		Poor	
		Low content of organic matter	0.12	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
				Cobble content	0.00	Too acid	0.59
Lehew, extremely stony-----	20	Poor					
		Low content of organic matter	0.12	Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.03	Slope	0.00	Rock fragments	0.00
				Cobble content	0.00	Too acid	0.59
Rock outcrop-----	15	Not rated					
				Not rated		Not rated	

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16C: Dekalb, very stony-----	60	Poor					
		Droughty	0.00	Depth to bedrock	0.00	Poor	
		Low content of organic matter	0.12	Cobble content	0.00	Rock fragments	0.00
		Too acid	0.50			Too acid	0.59
						Slope	0.63
Lily, very stony----	30	Fair					
		Low content of organic matter	0.18	Depth to bedrock	0.00	Fair	
		Too acid	0.50			Rock fragments	0.24
		Droughty	0.26			Too acid	0.59
						Slope	0.63
16E: Dekalb, very stony-----	50	Poor					
		Droughty	0.00	Depth to bedrock	0.00	Poor	
		Low content of organic matter	0.12	Cobble content	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
						Too acid	0.59
Lily, very stony----	40	Fair					
		Low content of organic matter	0.18	Depth to bedrock	0.00	Poor	
		Droughty	0.26	Slope	0.00	Slope	0.00
		Too acid	0.50			Rock fragments	0.24
						Too acid	0.59

Table 13.--Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17F: Dekalb, very stony-----	75	Poor					
		Droughty	0.00	Poor		Poor	
		Low content of organic matter	0.12	Depth to bedrock Slope	0.00	Rock fragments Slope	0.00
		Too acid	0.50	Cobble content	0.00	Too acid	0.59
Lily, very stony----	20	Fair					
		Low content of organic matter	0.18	Poor		Poor	
		Too acid	0.50	Depth to bedrock Slope	0.00	Slope Rock fragments	0.00 0.24
		Droughty	0.26			Too acid	0.59
18A: Derroc-----	85	Fair					
		Low content of organic matter	0.12	Fair		Poor	
		Cobble content	0.89	Cobble content	0.18	Rock fragments Hard to reclaim	0.00 0.00
		Stone content	0.91			(rock fragments)	
19C: Edneytown-----	90	Fair					
		Low content of organic matter	0.12	Good		Fair	
		Too acid	0.50			Too acid Slope	0.59 0.63
		Water erosion	0.90				

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
19D: Edneytown-----	90	Fair					
		Low content of organic matter	0.12	Fair Slope	0.50	Poor Slope	0.00
		Too acid	0.50			Too acid	0.59
		Water erosion	0.90				
20C: Edneytown, very stony-----	60	Fair					
		Low content of organic matter	0.12	Good		Fair	0.59
		Too acid	0.50			Too acid Slope	0.63
		Water erosion	0.90				
Peaks, very stony---	35	Poor					
		Droughty	0.00	Poor Depth to bedrock	0.00	Poor Rock fragments	0.00
		Low content of organic matter	0.12			Depth to bedrock	0.05
		Too acid	0.50			Slope	0.63
20E: Edneytown, very stony-----	60	Fair					
		Low content of organic matter	0.12	Poor Slope	0.00	Poor Slope	0.00
		Too acid	0.50			Too acid	0.59
		Water erosion	0.90				

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20E: Peaks, very stony----	35	Poor					
		Droughty	0.00	Poor		Poor	
		Low content of organic matter	0.12	Depth to bedrock Slope	0.00	Rock fragments Slope	0.00
		Too acid	0.50			Depth to bedrock	0.05
20F: Edneytown, very stony-----	60	Fair					
		Low content of organic matter	0.12	Poor		Poor	
		Too acid	0.50	Slope	0.00	Slope	0.00
		Water erosion	0.90			Too acid	0.59
Peaks, very stony----	35	Poor					
		Droughty	0.00	Poor		Poor	
		Low content of organic matter	0.12	Depth to bedrock Slope	0.00	Rock fragments Slope	0.00
		Too acid	0.50			Depth to bedrock	0.05
21B: Escatawba-----	80	Fair					
		Low content of organic matter	0.12	Fair		Fair	
		Too acid	0.08	Wetness Low strength	0.89	Wetness Too acid	0.89
		Water erosion	0.99				

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
21C: Escatawba-----	80	Fair					
		Too acid	0.08	Fair		Fair	
		Low content of organic matter	0.12	Low strength Wetness	0.22	Too acid Slope	0.50
		Water erosion	0.99		0.89	Wetness Slope	0.89
22B: Frederick-----	85	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of organic matter	0.12	Low strength Shrink-swell	0.00	Too clayey	0.00
		Too acid	0.74		0.87		
22C: Frederick-----	80	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of organic matter	0.12	Low strength Shrink-swell	0.00	Too clayey	0.00
		Too acid	0.74		0.87	Slope	0.63
22D: Frederick-----	80	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of organic matter	0.12	Low strength Shrink-swell	0.00	Too clayey	0.00
		Too acid	0.74		0.50	Slope	0.00



Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23E: Frederick-----	65	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of organic matter	0.12	Slope	0.00	Too clayey	0.00
		Too acid	0.74	Shrink-swell	0.87	Slope	0.00
Caneyville-----	30	Poor					
		Too clayey	0.00	Poor		Poor	
		Droughty	0.06	Depth to bedrock	0.00	Too clayey	0.00
		Low content of organic matter	0.02	Slope	0.00	Slope	0.00
				Low strength	0.00	Depth to bedrock	0.16
24C: Frederick, very rocky-----	45	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of organic matter	0.12	Low strength	0.00	Too clayey	0.00
		Too acid	0.74	Shrink-swell	0.87	Slope	0.96
Caneyville, very rocky-----	35	Poor					
		Too clayey	0.00	Poor		Poor	
		Droughty	0.06	Depth to bedrock	0.00	Too clayey	0.00
		Low content of organic matter	0.02	Low strength	0.00	Depth to bedrock	0.16
				Shrink-swell	0.65	Slope	0.96

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
24E: Frederick, very rocky-----	40	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of organic matter	0.12	Low strength Slope	0.00	Too clayey Slope	0.00
		Too acid	0.74	Shrink-swell	0.87		
Caneyville, very rocky-----	38	Poor					
		Too clayey	0.00	Poor		Poor	
		Droughty	0.06	Depth to bedrock	0.00	Too clayey Slope	0.00
		Low content of organic matter	0.02	Low strength Slope	0.00	Depth to bedrock	0.16
25C: Frederick-----	60	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of organic matter	0.12	Low strength Shrink-swell	0.00	Too clayey Slope	0.00
		Water erosion	0.90		0.89	Too acid	0.76
Watahala-----	30	Fair		Good			
		Low content of organic matter	0.18			Poor	
		Too acid	0.20			Rock fragments Slope	0.00
						Too acid	0.63
							0.76
25D: Frederick-----	45	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of organic matter	0.12	Low strength Slope	0.00	Too clayey Slope	0.00
		Water erosion	0.90	Shrink-swell	0.50	Too acid	0.00
					0.89		0.76

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25D: Watahala-----	35	Fair Low content of organic matter Too acid	0.18 0.20	Fair Slope	0.50	Poor Slope Rock fragments Too acid	0.00 0.00 0.76
25E: Frederick-----	50	Poor Too clayey Low content of organic matter Water erosion	0.00 0.12 0.90	Poor Slope Low strength Shrink-swell	0.00 0.00 0.89	Poor Too clayey Slope Too acid	0.00 0.00 0.76
Watahala-----	40	Fair Low content of organic matter Too acid	0.18 0.20	Poor Slope	0.00	Poor Slope Rock fragments Too acid	0.00 0.00 0.76
26A: Gladehill-----	85	Fair Too acid	0.97	Good		Good	
27B: Groseclose-----	80	Poor Too clayey Low content of organic matter Too acid	0.00 0.12 0.46	Poor Low strength Shrink-swell	0.00 0.87	Poor Too clayey Too acid	0.00 0.95

Table 13.-Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
27C: Groseclose-----	80	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of organic matter	0.12	Low strength Shrink-swell	0.00	Too clayey Slope	0.00
		Too acid	0.46		0.87	Too acid	0.95
27D: Groseclose-----	80	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of organic matter	0.12	Low strength Slope	0.00	Too clayey Slope	0.00
		Too acid	0.46	Shrink-swell	0.50	Too acid	0.95
28E: Groseclose-----	50	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of organic matter	0.12	Slope	0.00	Slope	0.00
		Too acid	0.46	Low strength Shrink-swell	0.00	Too clayey Too acid	0.95
Needmore-----	40	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of organic matter	0.12	Depth to bedrock Slope	0.00	Slope	0.00
		Water erosion	0.90	Low strength	0.00	Too clayey Depth to bedrock	0.79
29C: Groseclose-----	35	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of organic matter	0.12	Low strength Shrink-swell	0.00	Too clayey Too acid	0.95
		Too acid	0.46		0.87		

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29C: Needmore-----	30	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of organic matter	0.12	Depth to bedrock	0.00	Too clayey	0.00
		Water erosion	0.90	Low strength	0.00	Depth to bedrock	0.79
				Shrink-swell	0.87	Rock fragments	0.87
Urban land-----	25	Not rated					
				Not rated		Not rated	
30A: Holly-----	50	Fair					
		Low content of organic matter	0.50	Poor		Poor	
		Too acid	0.84	Wetness	0.00	Wetness	0.00
		Water erosion	0.90				
Orrville-----	45	Fair					
		Low content of organic matter	0.50	Poor		Poor	
		Water erosion	0.90	Wetness	0.00	Wetness	0.00
		Too acid	0.97			Hard to reclaim (rock fragments)	0.00
31A: Ingledove-----	85	Fair					
		Too acid	0.88	Good		Good	
32A: Irongate-----	85	Fair					
		Too acid	0.84	Fair		Fair	
				Wetness	0.35	Wetness	0.35

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33C: Litz-----	35	Fair					
		Droughty	0.01	Poor		Poor	
		Low content of organic matter	0.12	Depth to bedrock Cobble content	0.00	Rock fragments Slope	0.00 0.63
		Too acid	0.50			Depth to bedrock	0.71
Chiswell-----	30	Poor					
		Droughty	0.00	Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Too acid	0.50	Cobble content	0.97	Rock fragments Slope	0.18 0.63
Groseclose-----	20	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of organic matter	0.12	Low strength Shrink-swell	0.00	Too clayey Slope	0.00 0.63
		Too acid	0.46			Too acid	0.95
33E: Litz-----	35	Fair					
		Droughty	0.01	Poor		Poor	
		Low content of organic matter	0.12	Depth to bedrock Slope	0.00	Slope	0.00
		Too acid	0.50	Cobble content	0.80	Rock fragments Depth to bedrock	0.00 0.71
Chiswell-----	25	Poor					
		Droughty	0.00	Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock Slope	0.00	Depth to bedrock	0.00
		Too acid	0.50	Cobble content	0.97	Slope Rock fragments	0.00 0.18

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33E: Groseclose-----	25	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of	0.12	Slope	0.00	Slope	0.00
		organic matter		Low strength	0.00	Too clayey	0.00
		Too acid	0.46	Shrink-swell	0.87	Too acid	0.95
33F: Litz-----	35	Fair					
		Low content of	0.12	Poor		Poor	
		organic matter		Slope	0.00	Slope	0.00
		Droughty	0.01	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Cobble content	0.80	Slope	0.00
						Depth to bedrock	0.71
Chiswell-----	30	Poor					
		Droughty	0.00	Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
				Cobble content	0.97	Rock fragments	0.18
Groseclose-----	20	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of	0.12	Slope	0.00	Slope	0.00
		organic matter		Low strength	0.00	Too clayey	0.00
		Too acid	0.46	Shrink-swell	0.87	Too acid	0.95
34C: Litz, very stony----	55	Fair					
		Droughty	0.01	Poor		Poor	
		Low content of	0.12	Depth to bedrock	0.00	Rock fragments	0.00
		organic matter		Cobble content	0.80	Depth to bedrock	0.71
		Too acid	0.50			Too acid	0.76

Table 13.--Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34C: Needmore, very stony-----	35	Poor					
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Low content of organic matter	0.12	Low strength	0.00	Depth to bedrock	0.79
		Water erosion	0.90	Shrink-swell	0.87	Rock fragments	0.87
34E: Litz, very stony----	55	Fair					
		Droughty	0.01	Depth to bedrock	0.00	Poor	
		Low content of organic matter	0.12	Slope	0.00	Slope	0.00
		Too acid	0.50	Cobble content	0.80	Rock fragments	0.00
						Depth to bedrock	0.71
Needmore, very stony-----	35	Poor					
		Too clayey	0.00	Depth to bedrock	0.00	Poor	
		Low content of organic matter	0.12	Slope	0.00	Slope	0.00
		Water erosion	0.90	Low strength	0.00	Too clayey	0.00
						Depth to bedrock	0.79
34F: Litz, very stony----	55	Fair					
		Droughty	0.01	Depth to bedrock	0.00	Poor	
		Low content of organic matter	0.12	Slope	0.00	Slope	0.00
		Too acid	0.50	Cobble content	0.80	Rock fragments	0.00
						Depth to bedrock	0.71



Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34F: Needmore, very stony-----	35	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of organic matter	0.12	Depth to bedrock Slope	0.00	Slope Too clayey	0.00
		Water erosion	0.90	Low strength	0.00	Depth to bedrock	0.79
35C: Lodi-----	40	Poor					
		Too clayey	0.00	Fair		Poor	
		Low content of organic matter	0.12	Shrink-swell	0.95	Too clayey Slope	0.00 0.63
		Too acid	0.32			Too acid	0.95
McClung-----	35	Fair		Good		Fair	
		Low content of organic matter	0.12			Slope	0.63
		Too acid	0.50			Too acid	0.76
Lily-----	20	Fair					
		Low content of organic matter	0.18	Poor		Fair	
		Droughty	0.26	Depth to bedrock	0.00	Rock fragments Too acid	0.24 0.59
		Too acid	0.50			Slope	0.63
35E: Lodi-----	35	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of organic matter	0.12	Slope Shrink-swell	0.00 0.95	Slope Too clayey	0.00 0.00
		Too acid	0.32			Too acid	0.95

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
35E: McClung-----	30	Fair					
		Low content of organic matter	0.12	Poor Slope	0.00	Poor Slope	0.00
		Too acid	0.50			Too acid	0.76
Lily-----	25	Fair					
		Low content of organic matter	0.18	Poor Depth to bedrock Slope	0.00	Poor Slope	0.00
		Droughty	0.26		0.00	Rock fragments	0.24
		Too acid	0.50			Too acid	0.59
36C: Lostcove, extremely stony-----	80	Poor					
		Stone content	0.00	Poor Cobble content	0.00	Poor Hard to reclaim	0.00
		Low content of organic matter	0.12	Stones	0.00	Hard to reclaim	0.00
		Too acid	0.50			(rock fragments) Slope	0.63
37E: Lostcove, very stony-----	80	Poor					
		Stone content	0.00	Poor Slope	0.00	Poor Rock fragments	0.00
		Low content of organic matter	0.12	Cobble content	0.00	Slope	0.00
		Too acid	0.50	Stones	0.00	Hard to reclaim	0.00
						(rock fragments)	

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
37F: Lostcove, very stony-----	80	Poor					
		Stone content	0.00	Poor			
		Low content of cobble content	0.12	Slope	0.00	Slope	0.00
		organic matter		Stones	0.00	Hard to reclaim (rock fragments)	0.00
		Too acid	0.50			Rock fragments	0.00
38E: Marbleyard, extremely stony----	70	Poor					
		Droughty	0.00	Poor			
		Low content of organic matter	0.12	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
				Cobble content	0.20	Too acid	0.12
Rock outcrop-----	15	Not rated		Not rated		Not rated	
39F: Marbleyard, extremely stony----	45	Poor					
		Droughty	0.00	Poor			
		Low content of organic matter	0.12	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
				Cobble content	0.20	Too acid	0.12
Sherando, extremely stony-----	30	Fair					
		Droughty	0.05	Poor			
		Low content of organic matter	0.12	Slope	0.00	Hard to reclaim	0.00
		Too acid	0.20			Rock fragments	0.00
						Slope (rock fragments)	0.00

Table 13.-Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
39F: Rock outcrop-----	20	Not rated		Not rated		Not rated	
39G: Marbleyard, extremely stony----	45	Poor Droughty Low content of organic matter Too acid	0.00 0.12 0.50	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.20	Poor Rock fragments Slope Too acid	0.00 0.00 0.12
Sherando, extremely stony-----	30	Fair Droughty Low content of organic matter Too acid	0.05 0.12 0.20	Poor Slope	0.00	Poor Rock fragments Slope Hard to reclaim (rock fragments)	0.00 0.00 0.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
40A: Maurertown-----	50	Poor Too clayey Low content of organic matter Water erosion	0.00 0.50 0.99	Poor Wetness Low strength Shrink-swell	0.00 0.00 0.12	Poor Wetness Too clayey	0.00 0.00
Toms-----	45	Poor Too clayey Low content of organic matter Water erosion	0.00 0.50 0.68	Poor Wetness Low strength Shrink-swell	0.00 0.00 0.87	Poor Wetness Too clayey	0.00 0.00

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
41C: McCamy, very stony-----	85	Fair Low content of organic matter Too acid Water erosion	0.12 0.50 0.99	Poor Depth to bedrock	0.00	Poor Rock fragments Too acid Depth to bedrock	0.00 0.59 0.65
42F: McClung, very stony-----	40	Fair Low content of organic matter Too acid	0.12 0.50	Poor Slope	0.00	Poor Slope Too acid	0.00 0.76
Caneyville, very stony-----	30	Poor Too clayey Droughty Low content of organic matter	0.00 0.06 0.02	Poor Depth to bedrock Slope Low strength	0.00 0.00 0.00	Poor Too clayey Slope Depth to bedrock	0.00 0.00 0.16
Dekalb, very stony-----	25	Poor Droughty Low content of organic matter Too acid	0.00 0.12 0.50	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.00	Poor Rock fragments Slope Too acid	0.00 0.00 0.59

Table 13.-Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
43C: Needmore-----	60	Poor					
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Low content of organic matter	0.12	Low strength	0.00	Depth to bedrock	0.79
		Water erosion	0.90	Shrink-swell	0.87	Rock fragments	0.87
43E: Needmore-----	30	Poor					
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Shrink-swell	0.12	Too clayey	0.00
		Too clayey	0.00	Low strength	0.00	Slope	0.96
43F: Needmore-----	55	Poor					
		Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
		Low content of organic matter	0.12	Slope	0.00	Too clayey	0.00
		Water erosion	0.90	Low strength	0.00	Depth to bedrock	0.79
43G: Needmore-----	35	Poor					
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Shrink-swell	0.12	Slope	0.00
		Too clayey	0.00	Slope	0.00	Too clayey	0.00
43H: Needmore-----	50	Poor					
		Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
		Low content of organic matter	0.12	Slope	0.00	Too clayey	0.00
		Water erosion	0.90	Low strength	0.00	Depth to bedrock	0.79

Table 13.-Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
43F: Opequon-----	40	Poor Droughty Depth to bedrock Too clayey	0.00 0.00 0.00	Poor Depth to bedrock Slope Shrink-swell	0.00 0.00 0.12	Poor Depth to bedrock Slope Too clayey	0.00 0.00 0.00
44E: Needmore-----	70	Poor Too clayey Low content of organic matter Water erosion	0.00 0.12 0.90	Poor Depth to bedrock Slope Low strength	0.00 0.00 0.00	Poor Slope Too clayey Depth to bedrock	0.00 0.00 0.79
Urban land-----	25	Not rated		Not rated		Not rated	
45B: Nicelytown-----	80	Fair Low content of organic matter Too acid Water erosion	0.12 0.20 0.99	Fair Wetness Low strength	0.14 0.22	Fair Wetness Too acid	0.14 0.76
46B: Nicelytown-----	50	Fair Low content of organic matter Too acid Water erosion	0.12 0.20 0.99	Fair Wetness Low strength	0.14 0.22	Fair Wetness Too acid	0.14 0.76
Urban land-----	45	Not rated		Not rated		Not rated	

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47C: Oriskany, extremely stony-----	65	Fair					
		Low content of organic matter	0.08	Fair		Poor	
		Too acid	0.50			Hard to reclaim (rock fragments)	0.00
		Cobble content	0.74			Rock fragments	0.00
Laidig, extremely stony-----	25	Fair				Slope	0.63
		Low content of organic matter	0.12	Poor		Fair	
		Too acid	0.50	Depth to cemented pan	0.00	Depth to cemented pan	0.71
47E: Oriskany, extremely stony-----	60		0.71	Wetness	0.98	Rock fragments	0.40
		Depth to cemented pan				Wetness	0.98
Laidig, extremely stony-----	30	Fair					
		Low content of organic matter	0.08	Poor		Poor	
		Too acid	0.50	Slope	0.00	Slope	0.00
		Cobble content	0.74	Cobble content	0.03	Hard to reclaim (rock fragments)	0.00
Laidig, extremely stony-----	30					Rock fragments	0.00
		Low content of organic matter	0.12	Poor		Poor	
		Too acid	0.50	Depth to cemented pan	0.00	Slope	0.00
Laidig, extremely stony-----	30		0.71	Slope	0.00	Rock fragments	0.40
		Depth to cemented pan		Wetness	0.98	Depth to cemented pan	0.71



Table 13.--Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
48F: Oriskany, extremely stony-----	80	Fair					
		Low content of organic matter	0.08	Poor	0.00	Slope	0.00
		Too acid	0.50	Cobble content	0.03	Hard to reclaim (rock fragments)	0.00
		Cobble content	0.74			Rock fragments	0.00
49C: Oriskany, extremely stony-----	55	Fair					
		Low content of organic matter	0.08	Fair	0.03	Hard to reclaim (rock fragments)	0.00
		Too acid	0.50			Rock fragments	0.00
		Cobble content	0.74			Slope	0.63
Murrill, extremely stony-----	35	Fair					
		Low content of organic matter	0.12	Poor	0.00	Fair	0.12
		Too acid	0.20	Low strength		Rock fragments	0.53
		Too clayey	0.92			Too clayey	0.63
49E: Oriskany, extremely stony-----	55	Fair					
		Low content of organic matter	0.08	Poor	0.00	Slope	0.00
		Too acid	0.50	Cobble content	0.03	Hard to reclaim (rock fragments)	0.00
		Cobble content	0.74			Rock fragments	0.00

Table 13.--Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
49E: Murrill, extremely stony-----	35	Fair Low content of organic matter Too acid Too clayey	0.12 0.20 0.92	Poor Slope Low strength	0.00 0.00	Poor Slope Rock fragment Too clayey	0.00 0.12 0.53
49F: Oriskany, extremely stony-----	65	Fair Low content of organic matter Too acid Cobble content	0.08 0.50 0.74	Poor Slope Cobble content	0.00 0.03	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
Murrill, extremely stony-----	25	Fair Low content of organic matter Too acid Too clayey	0.12 0.20 0.92	Poor Slope Low strength	0.00 0.00	Poor Slope Rock fragments Too clayey	0.00 0.12 0.53
50E: Peaks, very rocky---	55	Poor Droughty Low content of organic matter Too acid	0.00 0.12 0.50	Poor Depth to bedrock Slope	0.00 0.00	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.05

Table 13.--Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
50E: Edneytown, very rocky-----	40	Fair Low content of organic matter Too acid Water erosion	0.12 0.50 0.90	Poor Slope	0.00	Poor Slope Too acid	0.00 0.59
50F: Peaks, very rocky---	55	Poor Droughty Low content of organic matter Too acid	0.00 0.12 0.50	Poor Depth to bedrock Slope	0.00 0.00	Poor Rock fragments Slope Depth to bedrock Depth to bedrock	0.00 0.00 0.05
Edneytown, very rocky-----	40	Fair Low content of organic matter Too acid Water erosion	0.12 0.50 0.90	Poor Slope	0.00	Poor Slope Too acid	0.00 0.59
51A: Philo-----	75	Fair Too acid Low content of organic matter Water erosion	0.50 0.50 0.90	Fair Wetness	0.44	Fair Hard to reclaim (rock fragments) Wetness Too acid	0.40 0.44 0.95

Table 13.--Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
52C: Pignut, very stony-----	50	Poor Low content of organic matter Too acid Water erosion	0.00 0.50 0.90	Poor Depth to bedrock Low strength	0.00 0.78	Fair Rock fragments Too acid Slope	0.68 0.95 0.96
Myersville, very stony-----	40	Fair Low content of organic matter Water erosion Too acid	0.12 0.90 0.54	Fair Low strength Depth to bedrock	0.22 0.58	Fair Hard to reclaim (rock fragments) Slope Too acid	0.68 0.96 0.98
53E: Pignut, very stony-----	90	Poor Low content of organic matter Too acid Water erosion	0.00 0.50 0.90	Poor Depth to bedrock Slope Low strength	0.00 0.00 0.78	Poor Slope Rock fragments Too acid	0.00 0.68 0.95
53F: Pignut, very stony-----	90	Poor Low content of organic matter Too acid Water erosion	0.00 0.50 0.90	Poor Depth to bedrock Slope Low strength	0.00 0.00 0.78	Poor Slope Rock fragments Too acid	0.00 0.68 0.95
54: Pits-----	50	Not rated		Not rated		Not rated	

Table 13.-Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
54: Dumps-----	45	Not rated		Not rated		Not rated	
55A: Pope-----	90	Fair Low content of organic matter Too acid	0.50 0.61	Good		Poor Hard to reclaim (rock fragments) Rock fragments	0.00 0.18
56G: Rock outcrop-----	60	Not rated		Not rated		Not rated	
Opequon-----	25	Poor Droughty Depth to bedrock Too clayey	0.00 0.00 0.00	Poor Depth to bedrock Slope Shrink-swell	0.00 0.00 0.12	Poor Depth to bedrock Slope Too clayey	0.00 0.00 0.00
57A: Sensabaugh-----	40	Fair Low content of organic matter Too acid	0.50 0.84	Good		Poor Rock fragments Hard to reclaim (rock fragments)	0.00 0.00
Lobdell-----	30	Fair Water erosion Low content of organic matter Too acid	0.99 0.50 0.84	Fair Wetness	0.14	Fair Wetness	0.14

Table 13.-Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
57A: Derroc-----	20	Fair					
		Low content of organic matter	0.12	Fair		Poor	
		Cobble content	0.89		0.18	Rock fragments	0.00
		Stone content	0.91			Hard to reclaim (rock fragments)	0.00
58B: Shottower-----	90	Poor					
		Too clayey	0.00	Fair		Poor	
		Low content of organic matter	0.12	Shrink-swell	0.87	Too clayey	0.00
		Too acid	0.32			Hard to reclaim (rock fragments)	0.00
58C: Shottower-----	90	Poor					
		Too clayey	0.00	Fair		Poor	
		Low content of organic matter	0.12	Shrink-swell	0.87	Too clayey	0.00
		Too acid	0.32			Hard to reclaim (rock fragments)	0.00
						Slope	0.63
58D: Shottower-----	85	Poor					
		Too clayey	0.00	Fair		Poor	
		Low content of organic matter	0.12	Slope	0.50	Slope	0.00
		Too acid	0.32	Shrink-swell	0.87	Too clayey	0.00
						Hard to reclaim (rock fragments)	0.00

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
59E: Shottower-----	85	Poor					
		Too clayey	0.00	Fair		Poor	
		Low content of	0.12	Slope	0.08	Slope	0.00
		organic matter		Low strength	0.78	Too clayey	0.00
		Too acid	0.32	Shrink-swell	0.87	Rock fragments	0.00
60C: Shottower-----	50	Poor					
		Too clayey	0.00	Fair		Poor	
		Low content of	0.12	Shrink-swell	0.87	Too clayey	0.00
		organic matter				Hard to reclaim	0.00
		Too acid	0.32			(rock fragments)	
Urban land-----	45	Not rated		Not rated		Not rated	
61B: Slabtown-----	80	Poor					
		Low content of	0.00	Poor		Fair	
		organic matter		Low strength	0.00	Wetness	0.76
		Too acid	0.84	Shrink-swell	0.59		
		Water erosion	0.90	Wetness	0.76		
61C: Slabtown-----	80	Poor					
		Low content of	0.00	Poor		Fair	
		organic matter		Low strength	0.00	Slope	0.63
		Too acid	0.84	Shrink-swell	0.59	Wetness	0.76
		Water erosion	0.90	Wetness	0.76		
62: Slickens-----	100	Not rated		Not rated		Not rated	

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
63E: Stumptown, extremely stony----	40	Poor Droughty Low content of organic matter Too acid	0.00 0.12 0.50	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.81	Poor Slope Rock fragments Rock fragments Too acid	0.00 0.00 0.76
Marbleyard, extremely stony----	35	Poor Droughty Low content of organic matter Too acid	0.00 0.12 0.50	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.20	Poor Rock fragments Slope Too acid	0.00 0.00 0.12
Rock outcrop-----	15	Not rated		Not rated		Not rated	
63F: Stumptown, extremely stony----	40	Poor Droughty Low content of organic matter Too acid	0.00 0.12 0.50	Poor Slope Depth to bedrock Cobble content	0.00 0.00 0.81	Poor Rock fragments Slope Too acid	0.00 0.00 0.76
Marbleyard, extremely stony----	35	Poor Droughty Low content of organic matter Too acid	0.00 0.12 0.50	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.20	Poor Rock fragments Slope Too acid	0.00 0.00 0.12
Rock outcrop-----	15	Not rated		Not rated		Not rated	



Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
63G: Stumptown, extremely stony----	40	Poor Droughty Low content of organic matter Too acid	0.00 0.12 0.50	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.81	Poor Slope Rock fragments Too acid	0.00 0.00 0.76
Marbleyard, extremely stony----	35	Poor Droughty Low content of organic matter Too acid	0.00 0.12 0.50	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.20	Poor Rock fragments Slope Too acid	0.00 0.00 0.12
Rock outcrop-----	15	Not rated		Not rated		Not rated	
64E: Stumptown, very stony-----	50	Poor Droughty Low content of organic matter Too acid	0.00 0.12 0.50	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.81	Poor Rock fragments Slope Too acid	0.00 0.00 0.76
Sylco, very stony----	45	Poor Droughty Depth to bedrock Too acid	0.00 0.46 0.50	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.04	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.46

Table 13.--Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
64F: Stumptown, very stony-----	50	Poor					
		Droughty	0.00	Poor		Poor	
		Low content of	0.12	Slope	0.00	Rock fragments	0.00
		organic matter		Depth to bedrock	0.00	Slope	0.00
		Too acid	0.50	Cobble content	0.81	Too acid	0.76
Sylco, very stony---	35	Poor					
		Droughty	0.00	Poor		Poor	
		Depth to bedrock	0.46	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
				Cobble content	0.04	Depth to bedrock	0.46
65E: Sylco, very rocky---	45	Poor					
		Droughty	0.00	Poor		Poor	
		Depth to bedrock	0.46	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
				Cobble content	0.04	Depth to bedrock	0.46
Marbleyard, very rocky-----	40	Poor					
		Droughty	0.00	Poor		Poor	
		Low content of	0.12	Depth to bedrock	0.00	Rock fragments	0.00
		organic matter		Slope	0.00	Slope	0.00
		Too acid	0.50	Cobble content	0.20	Too acid	0.12
65F: Sylco, very rocky---	50	Poor					
		Droughty	0.00	Poor		Poor	
		Depth to bedrock	0.46	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
				Cobble content	0.04	Depth to bedrock	0.46

Table 13.-Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65F: Marbleyard, very rocky-----	45	Poor Droughty Low content of organic matter Too acid	0.00 0.12 0.50	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.20	Poor Rock fragments Slope Too acid	0.00 0.00 0.12
65G: Sylco, very rocky---	50	Poor Droughty Too acid Depth to bedrock	0.00 0.50 0.46	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.04	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.46
Marbleyard, very rocky-----	35	Poor Droughty Low content of organic matter Too acid	0.00 0.12 0.50	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.20	Poor Rock fragments Slope Too acid	0.00 0.00 0.12
66C: Thunder, very bouldery-----	50	Fair Stone content Low content of organic matter Cobble content	0.03 0.12 0.46	Poor Stones Cobble content	0.00 0.03	Poor Hard to reclaim (rock fragments) Rock fragments Slope	0.00 0.00 0.00 0.63

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65F: Saunook, very bouldery-----	30	Fair Low content of organic matter Too acid	0.12 0.20	Good		Fair Rock fragments Slope Too acid	0.01 0.63 0.76
66E: Thunder, very bouldery-----	50	Fair Stone content Low content of organic matter Cobble content	0.03 0.12 0.46	Poor Slope Stones Cobble content	0.00 0.00 0.03	Poor Hard to reclaim (rock fragments) Rock fragments Slope	0.00 0.00 0.00
Saunook, very bouldery-----	30	Fair Low content of organic matter Too acid	0.12 0.20	Poor Slope	0.00	Poor Slope Rock fragments Too acid	0.00 0.01 0.76
66F: Thunder, very bouldery-----	50	Fair Stones content Low content of Cobble content	0.03 0.12 0.46	Poor Slope Stones Cobble content	0.00 0.00 0.03	Poor Hard to reclaim (rock fragments) Rock fragments Slope	0.00 0.00 0.00

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
66F: Saunook, very bouldery-----	30	Fair Low content of organic matter Too acid	0.12 0.20	Poor Slope	0.00	Poor Slope Rock fragments Too acid	0.00 0.01 0.76
67C: Tumblng-----	50	Poor Low content of organic matter Too acid Too clayey	0.01 0.50 0.00	Good		Poor Too clayey Hard to reclaim (rock fragments) Slope	0.00 0.50 0.63
Vanella-----	40	Fair Low content of organic matter Too acid	0.12 0.61	Good		Poor Hard to reclaim (rock fragments) Slope Rock fragments	0.00 0.63 0.97
67D: Tumblng-----	50	Poor Low content of organic matter Too acid Too clayey	0.01 0.50 0.00	Fair Slope	0.50	Poor Slope Too clayey Hard to reclaim (rock fragments)	0.00 0.00 0.50
Vanella-----	40	Fair Low content of organic matter Too acid	0.12 0.61	Fair Slope	0.50	Poor Slope Hard to reclaim (rock fragments)	0.00 0.00 0.97

Table 13.-Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
67E: Tumbling-----	50	Poor Too clayey Low content of organic matter	0.00 0.01 0.50	Poor Slope	0.00	Poor Slope Too clayey Hard to reclaim (rock fragments)	0.00 0.00 0.50
Vanella-----	40	Fair Low content of organic matter Too acid	0.12 0.61	Poor Slope	0.00	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.97
68D: Tumbling-----	35	Poor Too clayey Low content of organic matter	0.00 0.01 0.50	Good		Poor Too clayey Hard to reclaim (rock fragments) Slope	0.00 0.50 0.63
Vanella-----	30	Fair Low content of organic matter Too acid	0.12 0.61	Good		Poor Hard to reclaim (rock fragments) Slope Rock fragments	0.00 0.63 0.97
Urban land-----	25	Not rated		Not rated		Not rated	
69A: Tygart-----	55	Poor Too clayey Too acid Water erosion	0.00 0.12 0.90	Poor Wetness Low strength Shrink-swell	0.00 0.00 0.89	Poor Wetness Too clayey Too acid	0.00 0.00 0.59

Table 13.-Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
69A: Purdy-----	40	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of	0.12	Wetness	0.00	Wetness	0.00
		organic matter		Low strength	0.00	Too clayey	0.00
		Too acid	0.50	Shrink-swell	0.87	Too acid	0.59
70: Udorthents, refuse substratum-----	85	Not rated					
				Not rated		Not rated	
71: Udorthents-----	50	Not rated				Not rated	
				Not rated		Not rated	
Urban land-----	45	Not rated				Not rated	
72C: Unaka, very stony---	60	Fair					
		Droughty	0.07	Poor		Poor	
		Depth to bedrock	0.29	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50			Depth to bedrock	0.29
						Too acid	0.76
Plott, very stony---	30	Fair					
		Too acid	0.20	Good		Poor	
		Low content of	0.50			Hard to reclaim	0.00
		organic matter				(rock fragments)	
						Rock fragments	0.00
						Too acid	0.76
72E: Unaka, very stony---	65	Fair					
		Too acid	0.50	Poor		Poor	
		Droughty	0.07	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.29	Slope	0.00	Rock fragments	0.00
						Depth to bedrock	0.29

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
72E: Plott, very stony---	30	Fair					
		Too acid	0.20	Poor	0.00	Poor	0.00
		Low content of organic matter	0.50	Slope		Slope	0.00
						Hard to reclaim (rock fragments)	0.00
						Rock fragments	0.00
73C: Vanella, very stony-----	50	Fair					
		Low content of organic matter	0.12	Good		Poor	0.00
		Too acid	0.20			Hard to reclaim (rock fragments)	0.01
						Rock fragments	0.76
						Too acid	
Tumbling, very stony-----	40	Poor					
		Too clayey	0.00	Fair		Poor	0.00
		Low content of organic matter	0.02	Low strength	0.78	Too clayey	0.00
		Too acid	0.20			Hard to reclaim (rock fragments)	0.00
						Rock fragments	0.53
73E: Vanella, very stony-----	50	Fair					
		Too acid	0.20	Fair		Poor	0.00
		Low content of organic matter	0.12	Slope	0.08	Slope	0.00
						Hard to reclaim (rock fragments)	0.00
						Rock fragments	0.01



Table 13.-Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73E: Tumbling, very stony-----	40	Poor					
		Too clayey	0.00	Fair	0.08	Poor	0.00
		Low content of organic matter	0.02	Slope	0.78	Slope	0.00
		Too acid	0.20	Low strength		Too clayey	0.00
						Hard to reclaim	0.00
						(rock fragments)	
74C: Watahala, very stony-----	60	Poor					
		Too clayey	0.00	Poor	0.00	Poor	0.00
		Low content of organic matter	0.12	Low strength	0.98	Too clayey	0.32
		Too acid	0.50	Shrink-swell		Hard to reclaim	
						(rock fragments)	
						Rock fragments	0.49
Frederick, very stony-----	30	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of organic matter	0.12	Low strength	0.00	Too clayey	0.00
		Too acid	0.50	Shrink-swell	0.87	Slope	0.63
						Too acid	0.76
74E: Watahala, very stony-----	50	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of organic matter	0.12	Slope	0.00	Too clayey	0.00
		Too acid	0.50	Low strength	0.98	Slope	0.00
				Shrink-swell		Hard to reclaim	0.32
						(rock fragments)	

Table 13.-Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74E: Frederick, very stony-----	35	Poor					
		Too clayey	0.00	Poor			
		Low content of organic matter	0.12	Slope	10.00	Too clayey	0.00
		Too acid	0.50	Low strength	10.00	Slope	0.00
				Shrink-swell	10.87	Too acid	0.76
74F: Watahala, very stony-----	60	Poor					
		Too clayey	0.00	Poor			
		Low content of organic matter	0.12	Slope	10.00	Too clayey	0.00
		Too acid	0.50	Low strength	10.00	Slope	0.00
				Shrink-swell	10.98	Hard to reclaim (rock fragments)	0.32
Frederick, very stony-----	20	Poor					
		Too clayey	0.00	Poor			
		Low content of organic matter	0.12	Slope	10.00	Too clayey	0.00
		Too acid	0.50	Low strength	10.00	Slope	0.00
				Shrink-swell	10.87	Too acid	0.76
75E: Weikert-----	45	Poor					
		Droughty	0.00	Poor			
		Depth to bedrock	0.00	Depth to bedrock	10.00	Rock fragments	0.00
		Low content of organic matter	0.12	Cobble content	10.69	Depth to bedrock	0.00
				Slope	10.00	Slope	0.00

Table 13.—Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75E: Berks-----	30	Fair					
		Low content of organic matter	0.12	Poor		Poor	
		Droughty	0.23	Depth to bedrock Slope	0.00	Rock fragments	0.00
		Too acid	0.50	Cobble content	0.88	Slope	0.00
						Depth to bedrock	0.54
Rough-----	20	Poor					
		Droughty	0.00	Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Low content of organic matter	0.12	Cobble content Slope	0.67	Depth to bedrock	0.00
					0.00	Slope	0.00
75F: Weikert-----	45	Poor					
		Droughty	0.00	Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Low content of organic matter	0.12	Slope	0.00	Depth to bedrock	0.00
				Cobble content	0.69	Slope	0.00
Berks-----	30	Fair					
		Low content of organic matter	0.12	Poor		Poor	
		Droughty	0.23	Depth to bedrock Slope	0.00	Rock fragments	0.00
		Too acid	0.50	Cobble content	0.88	Slope	0.00
						Depth to bedrock	0.54
Rough-----	15	Poor					
		Droughty	0.00	Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Low content of organic matter	0.12	Slope	0.00	Depth to bedrock	0.00
				Cobble content	0.67	Slope	0.00

Table 13.-Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
76G: Weikert-----	35	Poor Droughty Depth to bedrock Low content of organic matter	0.00 0.00 0.12	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.69	Poor Rock fragments Depth to bedrock Slope	0.00 0.00 0.00
Rough-----	30	Poor Droughty Depth to bedrock Low content of organic matter	0.00 0.00 0.12	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.67	Poor Rock fragments Depth to bedrock Slope	0.00 0.00 0.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	
77C: Wintergreen-----	90	Poor Too clayey Low content of organic matter Too acid	0.00 0.12 0.50	Poor Low strength Shrink-swell	0.00 0.87	Poor Too clayey Too acid Slope	0.00 0.59 0.63
77D: Wintergreen-----	90	Poor Too clayey Low content of organic matter Too acid	0.00 0.12 0.50	Poor Low strength Slope Shrink-swell	0.00 0.50 0.87	Poor Slope Too clayey Too acid	0.00 0.00 0.59

Table 13.-Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
77E: Wintergreen-----	90	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of	0.12	Slope	0.00	Slope	0.00
		organic matter		Low strength	0.00	Too clayey	0.00
		Too acid	0.50	Shrink-swell	0.87	Too acid	0.59
78E: Wintergreen, very stony-----	85	Poor					
		Too clayey	0.00	Poor		Poor	
		Low content of	0.12	Slope	0.00	Slope	0.00
		organic matter		Low strength	0.00	Too clayey	0.00
		Too acid	0.50	Shrink-swell	0.87	Too acid	0.59
79A: Wolfgap-----	90	Fair					
		Water erosion	0.99	Good		Good	
80A: Wolfgap-----	35	Fair					
		Water erosion	0.99	Good		Good	
Derroc-----	30	Fair					
		Low content of	0.12	Fair		Poor	
		organic matter		Cobble content	0.18	Rock fragments	0.00
		Cobble content	0.89			Hard to reclaim	0.00
		Stone content	0.91			(rock fragments)	
Urban land-----	25	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Table 14.—Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1A: Alonzville, rarely flooded-----	80	Somewhat limited Seepage	0.70	Very limited Piping	1.00	Very limited Depth to water	1.00
2B: Alonzville-----	80	Somewhat limited Seepage Slope	0.70 0.32	Very limited Piping	1.00	Very limited Depth to water	1.00
3B: Alonzville-----	50	Somewhat limited Seepage Slope	0.70 0.32	Very limited Piping	1.00	Very limited Depth to water	1.00
Urban land-----	45	Not rated		Not rated		Not rated	
4C: Berks-----	50	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.86	Somewhat limited Thin layer	0.86	Very limited Depth to water	1.00
Weikert-----	40	Very limited Depth to bedrock Slope Seepage	1.00 1.00 0.01	Very limited Thin layer Seepage	1.00 0.02	Very limited Depth to water	1.00

Table 14.--Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
5A: Botetourt-----	90	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00	Very limited Unstable excavation walls Slow refill	1.00 0.30
6A: Botetourt-----	50	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00	Very limited Unstable excavation walls Slow refill	1.00 0.30
Urban land-----	45	Not rated		Not rated		Not rated	
7A: Buckton-----	55	Very limited Seepage	1.00	Very limited Piping	1.00	Very limited Depth to water	1.00
Weaver-----	30	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00	Very limited Unstable excavation walls Slow refill	1.00 0.30
8F: Caneyville-----	60	Very limited Slope Depth to bedrock Seepage	1.00 0.96 0.03	Somewhat limited Thin layer Hard to pack	0.96 0.28	Very limited Depth to water	1.00
Frederick-----	20	Very limited Slope Seepage	1.00 0.70	Somewhat limited Hard to pack	0.05	Very limited Depth to water	1.00

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8F: Rock outcrop-----	15	Not rated		Not rated		Not rated	
9C: Carbo, very rocky---	55	Very limited Slope Depth to bedrock	1.00 0.96	Very limited Hard to pack Thin layer	1.00 0.96	Very limited Depth to water	1.00
Opequon, very rocky-----	30	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Thin layer Hard to pack	1.00 1.00	Very limited Depth to water	1.00
9E: Carbo, very rocky---	50	Very limited Slope Depth to bedrock	1.00 0.96	Very limited Hard to pack Thin layer	1.00 0.96	Very limited Depth to water	1.00
Opequon, very rocky-----	35	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Hard to pack	1.00 1.00	Very limited Depth to water	1.00
10F: Carbo-----	55	Very limited Slope Depth to bedrock	1.00 0.96	Very limited Hard to pack Thin layer	1.00 0.96	Very limited Depth to water	1.00
Opequon-----	25	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Hard to pack	1.00 1.00	Very limited Depth to water	1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	



Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
11B: Cottonbend-----	85	Somewhat limited Seepage Slope	0.70 0.32	Very limited Piping	1.00	Very limited Depth to water	1.00
11C: Cottonbend-----	85	Very limited Slope Seepage	1.00 0.70	Very limited Piping	1.00	Very limited Depth to water	1.00
12A: Coursey, rarely flooded-----	80	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00	Somewhat limited Slow refill Unstable excavation walls	0.30 0.10
13B: Coursey-----	80	Somewhat limited Seepage Slope	0.70 0.08	Very limited Depth to saturated zone Piping	1.00	Somewhat limited Slow refill Unstable excavation walls	0.30 0.10
14C: Dekalb, very stony-----	50	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.81	Somewhat limited Large stones Seepage Thin layer	0.58 0.98 0.81	Very limited Depth to water	1.00
Lehew, very stony---	20	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.61	Very limited Large stones Seepage Thin layer	1.00 0.63 0.61	Very limited Depth to water	1.00

Table 14.--Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14C: Berks, very stony----	15	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.86	Somewhat limited Thin layer	0.86	Very limited Depth to water	1.00
14E: Dekalb, very stony-----	50	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.81	Somewhat limited Large stones Seepage Thin layer	0.58 0.98 0.81	Very limited Depth to water	1.00
Lehew, very stony----	20	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.61	Very limited Large stones Seepage Thin layer	1.00 0.63 0.61	Very limited Depth to water	1.00
Berks, very stony----	15	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.86	Somewhat limited Thin layer	0.86	Very limited Depth to water	1.00
14F: Dekalb, very stony-----	50	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.81	Somewhat limited Large stones Seepage Thin layer	0.58 0.98 0.81	Very limited Depth to water	1.00

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14F: Lehew, very stony----	20	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.61	Very limited Large stones Seepage Thin layer	1.00 0.63 0.61	Very limited Depth to water	1.00
Berks, very stony----	15	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.86	Somewhat limited Thin layer	0.86	Very limited Depth to water	1.00
15E: Dekalb, extremely stony-----	50	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.81	Somewhat limited Large stones Seepage Thin layer	0.58 0.98 0.81	Very limited Depth to water	1.00
Lehew, extremely stony-----	30	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.61	Very limited Large stones Seepage Thin layer	1.00 0.63 0.61	Very limited Depth to water	1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
15F: Dekalb, extremely stony-----	50	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.81	Somewhat limited Seepage Thin layer Large stones	0.98 0.81 0.58	Very limited Depth to water	1.00

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15F: Lehew, extremely stony-----	20	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.61	Very limited Large stones Seepage Thin layer	1.00 0.63 0.61	Very limited Depth to water	1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
16C: Dekalb, very stony-----	60	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.81	Somewhat limited Seepage Thin layer Large stones	0.98 0.81 0.58	Very limited Depth to water	1.00
Lily, very stony----	30	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.81	Very limited Piping Thin layer	1.00 0.81	Very limited Depth to water	1.00
16E: Dekalb, very stony-----	50	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.81	Somewhat limited Seepage Thin layer Large stones	0.98 0.81 0.58	Very limited Depth to water	1.00
Lily, very stony----	40	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.81	Very limited Piping Thin layer	1.00 0.81	Very limited Depth to water	1.00

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17F: Dekalb, very stony-----	75	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.81	Somewhat limited Large stones Seepage Thin layer	0.58 0.98 0.81	Very limited Depth to water	1.00
Lily, very stony----	20	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.81	Very limited Piping Thin layer	1.00 0.81	Very limited Depth to water	1.00
18A: Derroc-----	85	Very limited Seepage	1.00	Somewhat limited Large stones Seepage	0.25 0.83	Very limited Depth to water	1.00
19C: Edneytown-----	90	Very limited Seepage Slope	1.00 1.00	Not limited		Very limited Depth to water	1.00
19D: Edneytown-----	90	Very limited Seepage Slope	1.00 1.00	Not limited		Very limited Depth to water	1.00
20C: Edneytown, very stony-----	60	Very limited Seepage Slope	1.00 1.00	Not limited		Very limited Depth to water	1.00

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20C: Peaks, very stony----	35	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.88	Very limited Seepage Thin layer	1.00 0.99	Very limited Depth to water	1.00
20E: Edneytown, very stony-----	60	Very limited Seepage Slope	1.00 1.00	Not limited		Very limited Depth to water	1.00
Peaks, very stony----	35	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.88	Very limited Seepage Thin layer	1.00 0.99	Very limited Depth to water	1.00
20F: Edneytown, very stony-----	60	Very limited Seepage Slope	1.00 1.00	Not limited		Very limited Depth to water	1.00
Peaks, very stony----	35	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.88	Very limited Seepage Thin layer	1.00 0.99	Very limited Depth to water	1.00
21B: Escatawba-----	80	Somewhat limited Seepage Slope	0.70 0.32	Somewhat limited Piping Depth to saturated zone	0.90 0.86	Very limited Depth to water	1.00

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
21C: Escatawba-----	80	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping Depth to saturated zone	0.90 0.86	Very limited Depth to water	1.00
22B: Frederick-----	85	Somewhat limited Seepage Slope	0.70 0.32	Somewhat limited Hard to pack	0.05	Very limited Depth to water	1.00
22C: Frederick-----	80	Very limited Slope Seepage	1.00 0.70	Somewhat limited Hard to pack	0.05	Very limited Depth to water	1.00
22D: Frederick-----	80	Very limited Slope Seepage	1.00 0.70	Somewhat limited Hard to pack	0.05	Very limited Depth to water	1.00
23E: Frederick-----	65	Very limited Slope Seepage	1.00 0.70	Somewhat limited Hard to pack	0.05	Very limited Depth to water	1.00
Caneyville-----	30	Very limited Slope Depth to bedrock Seepage	1.00 0.96 0.03	Somewhat limited Thin layer Hard to pack	0.96 0.28	Very limited Depth to water	1.00

Table 14.--Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
24C: Frederick, very rocky-----	45	Very limited Slope Seepage	1.00 0.70	Somewhat limited Hard to pack	0.05	Very limited Depth to water	1.00
Caneyville, very rocky-----	35	Very limited Slope Depth to bedrock Seepage	1.00 0.96 0.03	Somewhat limited Thin layer Hard to pack	0.96 0.28	Very limited Depth to water	1.00
24E: Frederick, very rocky-----	40	Very limited Slope Seepage	1.00 0.70	Somewhat limited Hard to pack	0.05	Very limited Depth to water	1.00
Caneyville, very rocky-----	38	Very limited Slope Depth to bedrock Seepage	1.00 0.96 0.03	Somewhat limited Thin layer Hard to pack	0.96 0.28	Very limited Depth to water	1.00
25C: Frederick-----	60	Very limited Slope Seepage	1.00 0.70	Somewhat limited Hard to pack	0.02	Very limited Depth to water	1.00
Watahala-----	30	Very limited Seepage Slope	1.00 1.00	Not limited		Very limited Depth to water	1.00



Table 14.--Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25D: Frederick-----	45	Very limited Slope Seepage	1.00 0.70	Somewhat limited Hard to pack	0.02	Very limited Depth to water	1.00
Watahala-----	35	Very limited Seepage Slope	1.00 1.00	Not limited		Very limited Depth to water	1.00
25E: Frederick-----	50	Very limited Slope Seepage	1.00 0.70	Somewhat limited Hard to pack	0.02	Very limited Depth to water	1.00
Watahala-----	40	Very limited Seepage Slope	1.00 1.00	Not limited		Very limited Depth to water	1.00
26A: Gladehill-----	85	Very limited Seepage	1.00	Not limited		Very limited Depth to water	1.00
27B: Groseclose-----	80	Somewhat limited Seepage Slope	0.70 0.32	Not limited		Very limited Depth to water	1.00
27C: Groseclose-----	80	Very limited Slope Seepage	1.00 0.70	Not limited		Very limited Depth to water	1.00

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
27D: Groseclose-----	80	Very limited Slope Seepage	1.00 0.70	Not limited		Very limited Depth to water	1.00
28E: Groseclose-----	50	Very limited Slope Seepage	1.00 0.70	Not limited		Very limited Depth to water	1.00
Needmore-----	40	Very limited Slope Depth to bedrock Seepage	1.00 0.06 0.03	Somewhat limited Thin layer	0.77	Very limited Depth to water	1.00
29C: Groseclose-----	35	Somewhat limited Slope Seepage	0.92 0.70	Not limited		Very limited Depth to water	1.00
Needmore-----	30	Very limited Slope Depth to bedrock Seepage	1.00 0.06 0.03	Somewhat limited Thin layer	0.77	Very limited Depth to water	1.00
Urban land-----	25	Not rated		Not rated		Not rated	
30A: Holly-----	50	Very limited Seepage	1.00	Very limited Ponding Depth to saturated zone Piping	1.00 1.00 1.00	Somewhat limited Unstable excavation walls	0.10

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
30A: Orrville-----	45	Very limited Seepage	1.00	Very limited Ponding Depth to saturated zone Piping	1.00 1.00 1.00	Very limited Unstable excavation walls	1.00
31A: Ingledove-----	85	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.99	Very limited Depth to water	1.00
32A: Irongate-----	85	Very limited Seepage	1.00	Very limited Depth to saturated zone	1.00	Very limited Unstable excavation walls	1.00
33C: Litz-----	35	Very limited Slope Seepage Depth to bedrock	1.00 0.70 0.56	Somewhat limited Thin layer Seepage	0.81 0.13	Very limited Depth to water	1.00
Chiswell-----	30	Very limited Slope Seepage Depth to bedrock	1.00 0.01 0.58	Very limited Thin layer Seepage	1.00 0.50	Very limited Depth to water	1.00
Groseclose-----	20	Very limited Slope Seepage	1.00 0.70	Not limited		Very limited Depth to water	1.00

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33E: Litz-----	35	Very limited					
		Slope	1.00	Somewhat limited Thin layer	0.81	Very limited	1.00
		Seepage	0.70	Seepage	0.13		
		Depth to bedrock	0.56				
Chiswell-----	25	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to bedrock	0.58	Seepage	0.50		
		Seepage	0.01				
Groseclose-----	25	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
33F: Litz-----	35	Very limited					
		Slope	1.00	Somewhat limited Thin layer	0.81	Very limited	1.00
		Seepage	0.70	Seepage	0.13	Depth to water	1.00
		Depth to bedrock	0.56				
Chiswell-----	30	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to bedrock	0.58	Seepage	0.50		
		Seepage	0.01				
Groseclose-----	20	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				

Table 14.--Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas			Embankments, dikes, and levees			Aquifer-fed excavated ponds		
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features
34C: Litz, very stony----	55	Very limited Slope Seepage Depth to bedrock	1.00 0.70 0.56	Somewhat limited Thin layer Seepage	0.81 0.13	Very limited Depth to water	1.00			
Needmore, very stony-----	35	Very limited Slope Depth to bedrock Seepage	1.00 0.06 0.03	Somewhat limited Thin layer	0.77	Very limited Depth to water	1.00			
34E: Litz, very stony----	55	Very limited Slope Seepage Depth to bedrock	1.00 0.70 0.56	Somewhat limited Thin layer Seepage	0.81 0.13	Very limited Depth to water	1.00			
Needmore, very stony-----	35	Very limited Slope Depth to bedrock Seepage	1.00 0.06 0.03	Somewhat limited Thin layer	0.77	Very limited Depth to water	1.00			
34F: Litz, very stony----	55	Very limited Slope Seepage Depth to bedrock	1.00 0.70 0.56	Somewhat limited Thin layer Seepage	0.81 0.13	Very limited Depth to water	1.00			

Table 14.--Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34F: Needmore, very stony-----	35	Very limited					
		Slope	1.00	Somewhat limited		Very limited	
		Depth to bedrock	0.06	Thin layer	0.77	Depth to water	1.00
		Seepage	0.03				
35C: Lodi-----	40	Very limited					
		Slope	1.00	Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
McClung-----	35	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
Lily-----	20	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	1.00	Thin layer	0.81		
		Depth to bedrock	0.81				
35E: Lodi-----	35	Very limited					
		Slope	1.00	Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
McClung-----	30	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
35E: Lily-----	25	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.81	Very limited Piping Thin layer	1.00 0.81	Very limited Depth to water	1.00
36C: Lostcove, extremely stony-----	80	Very limited Slope Seepage	1.00 0.70	Very limited Large stones	1.00	Very limited Depth to water	1.00
37E: Lostcove, very stony-----	80	Very limited Slope Seepage	1.00 0.70	Very limited Large stones	1.00	Very limited Depth to water	1.00
37F: Lostcove, very stony-----	80	Very limited Slope Seepage	1.00 0.70	Very limited Large stones	1.00	Very limited Depth to water	1.00
38E: Marbleyard, extremely stony----	70	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.66	Very limited Seepage Large stones	1.00 0.30	Very limited Depth to water	1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
39F: Marbleyard, extremely stony----	45	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.66	Very limited Seepage Large stones	1.00 0.30	Very limited Depth to water	1.00
Sherando, extremely stony-----	30	Very limited Seepage Slope	1.00 1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
39G: Marbleyard, extremely stony----	45	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.66	Very limited Seepage Large stones	1.00 0.30	Very limited Depth to water	1.00
Sherando, extremely stony-----	30	Very limited Seepage Slope	1.00 1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	



Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
40A: Maurertown-----	50	Not limited					
				Very limited		Somewhat limited	
				Ponding	1.00	Slow refill	10.97
				Depth to	1.00	Unstable	10.10
				saturated zone		excavation walls	
				Hard to pack	0.41		
Toms-----	45	Not limited					
				Very limited		Somewhat limited	
				Ponding	1.00	Slow refill	10.30
				Depth to	1.00	Unstable	10.10
				saturated zone		excavation walls	
41C: McCamy, very stony-----	85	Very limited					
		Seepage	1.00	Somewhat limited			
		Slope	1.00	Thin layer	0.83	Very limited	
		Depth to bedrock	0.83			Depth to water	1.00
42F: McClung, very stony-----	40	Very limited					
		Slope	1.00	Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
Caneyville, very stony-----	30	Very limited					
		Slope	1.00	Somewhat limited		Very limited	
		Depth to bedrock	0.96	Thin layer	0.96	Depth to water	1.00
		Seepage	0.03	Hard to pack	0.28		

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
42F: Dekalb, very stony-----	25	Very limited Slope Depth to bedrock	1.00 1.00 0.81	Somewhat limited Seepage Thin layer Large stones	0.98 0.81 0.58	Very limited Depth to water	1.00
43C: Needmore-----	60	Very limited Slope Depth to bedrock Seepage	1.00 0.06 0.03	Somewhat limited Thin layer	0.77	Very limited Depth to water	1.00
Opequon-----	30	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Thin layer Hard to pack	1.00 1.00	Very limited Depth to water	1.00
43E: Needmore-----	55	Very limited Slope Depth to bedrock Seepage	1.00 0.06 0.03	Somewhat limited Thin layer	0.77	Very limited Depth to water	1.00
Opequon-----	35	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Hard to pack	1.00 1.00	Very limited Depth to water	1.00
43F: Needmore-----	50	Very limited Slope Depth to bedrock Seepage	1.00 0.06 0.03	Somewhat limited Thin layer	0.77	Very limited Depth to water	1.00

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
43F: Opequon-----	40	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Hard to pack	1.00 1.00	Very limited Depth to water	1.00
44E: Needmore-----	70	Very limited Slope Depth to bedrock Seepage	1.00 0.06 0.03	Somewhat limited Thin layer	0.77	Very limited Depth to water	1.00
Urban land-----	25	Not rated		Not rated		Not rated	
45B: Nicelytown-----	80	Somewhat limited Slope Seepage	0.32 0.03	Very limited Depth to saturated zone Piping	1.00 0.99	Somewhat limited Slow refill Unstable excavation walls	0.97 0.10
46B: Nicelytown-----	50	Somewhat limited Slope Seepage	0.32 0.03	Very limited Depth to saturated zone Piping	1.00 0.99	Somewhat limited Slow refill Unstable excavation walls	0.97 0.10
Urban land-----	45	Not rated		Not rated		Not rated	
47C: Oriskany, extremely stony-----	65	Very limited Seepage Slope	1.00 1.00	Somewhat limited Large stones	0.55	Very limited Depth to water	1.00

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47C: Laidig, extremely stony-----	25	Very limited Seepage Slope Depth to cemented pan	1.00 1.00 0.81	Very limited Piping Thin layer Depth to saturated zone	1.00 0.81 0.68	Very limited Depth to water	1.00
47E: Oriskany, extremely stony-----	60	Very limited Seepage Slope	1.00 1.00	Somewhat limited Large stones	0.55	Very limited Depth to water	1.00
Laidig, extremely stony-----	30	Very limited Slope Seepage Depth to cemented pan	1.00 1.00 0.81	Very limited Piping Thin layer Depth to saturated zone	1.00 0.81 0.68	Very limited Depth to water	1.00
48F: Oriskany, extremely stony-----	80	Very limited Seepage Slope	1.00 1.00	Somewhat limited Large stones	0.55	Very limited Depth to water	1.00
49C: Oriskany, extremely stony-----	55	Very limited Seepage Slope	1.00 1.00	Somewhat limited Large stones	0.55	Very limited Depth to water	1.00

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
49C: Murrill, extremely stony-----	35	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.31	Very limited Depth to water	1.00
49E: Oriskany, extremely stony-----	55	Very limited Seepage Slope	1.00 1.00	Somewhat limited Large stones	0.55	Very limited Depth to water	1.00
Murrill, extremely stony-----	35	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.31	Very limited Depth to water	1.00
49F: Oriskany, extremely stony-----	65	Very limited Seepage Slope	1.00 1.00	Somewhat limited Large stones	0.55	Very limited Depth to water	1.00
Murrill, extremely stony-----	25	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.31	Very limited Depth to water	1.00
50E: Peaks, very rocky---	55	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.88	Very limited Seepage Thin layer	1.00 0.99	Very limited Depth to water	1.00

Table 14.--Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
50E: Edneytown, very rocky-----	40	Very limited Seepage Slope	1.00 1.00	Not limited		Very limited Depth to water	1.00
50F: Peaks, very rocky---	55	Very limited Seepage Slope Depth to bedrock		Very limited Seepage Thin layer	1.00 0.99	Very limited Depth to water	1.00
Edneytown, very rocky-----	40	Very limited Seepage Slope	1.00 1.00	Not limited		Very limited Depth to water	1.00
51A: Philo-----	75	Very limited Seepage	1.00	Very limited Depth to saturated zone	1.00	Somewhat limited Unstable excavation walls	0.10
52C: Pignut, very stony-----	50	Very limited Slope Depth to bedrock Seepage	1.00 0.61 0.30	Very limited Piping Thin layer	1.00 0.61	Very limited Depth to water	1.00
Myersville, very stony-----	40	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping Thin layer	0.23 0.11	Very limited Depth to water	1.00

Table 14.--Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
53E: Pignut, very stony-----	90	Very limited Slope Depth to bedrock Seepage	1.00 0.61 0.30	Very limited Piping Thin layer	1.00 0.61	Very limited Depth to water	1.00
53F: Pignut, very stony-----	90	Very limited Slope Depth to bedrock Seepage	1.00 0.61 0.30	Very limited Piping Thin layer	1.00 0.61	Very limited Depth to water	1.00
54: Pits-----	50	Not rated		Not rated		Not rated	
Dumps-----	45	Not rated		Not rated		Not rated	
55A: Pope-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.30	Very limited Depth to water	1.00
56G: Rock outcrop-----	60	Not rated		Not rated		Not rated	
Opequon-----	25	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Hard to pack	1.00 1.00	Very limited Depth to water	1.00
57A: Sensabaugh-----	40	Very limited Seepage	1.00	Not limited		Very limited Depth to water	1.00

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
57A: Lobdell-----	30	Very limited Seepage	1.00	Very limited Depth to saturated zone	1.00	Somewhat limited Unstable excavation walls	0.10
Derroc-----	20	Very limited Seepage	1.00	Somewhat limited Seepage Large stones	0.83 0.25	Very limited Depth to water	1.00
58B: Shottower-----	90	Somewhat limited Seepage Slope	0.70 0.32	Very limited Piping	1.00	Very limited Depth to water	1.00
58C: Shottower-----	90	Very limited Slope Seepage	1.00 0.70	Very limited Piping	1.00	Very limited Depth to water	1.00
58D: Shottower-----	85	Very limited Slope Seepage	1.00 0.70	Very limited Piping	1.00	Very limited Depth to water	1.00
59E: Shottower-----	85	Very limited Slope Seepage	1.00 0.70	Very limited Piping	1.00	Very limited Depth to water	1.00
60C: Shottower-----	50	Somewhat limited Seepage Slope	0.70 0.32	Very limited Piping	1.00	Very limited Depth to water	1.00



Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
60C: Urban land-----	45	Not rated		Not rated		Not rated	
61B: Slabtown-----	80	Somewhat limited Seepage Slope	0.70 0.32	Somewhat limited Depth to saturated zone Piping	0.95 0.41	Very limited Depth to water	1.00
61C: Slabtown-----	80	Very limited Slope Seepage	1.00 0.70	Somewhat limited Depth to saturated zone Piping	0.95 0.41	Very limited Depth to water	1.00
62: Slickens-----	100	Not rated		Not rated		Not rated	
63E: Stumptown, extremely stony----	40	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.77	Somewhat limited Large stones Thin layer Seepage	0.77 0.77 0.43	Very limited Depth to water	1.00
Marbleyard, extremely stony----	35	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.66	Very limited Seepage Large stones	1.00 0.30	Very limited Depth to water	1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
63F: Stumptown, extremely stony----	40	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.77	Somewhat limited Large stones Thin layer Seepage	0.77 0.77 0.43	Very limited Depth to water	1.00
Marbleyard, extremely stony----	35	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.66	Very limited Seepage Large stones	1.00 0.30	Very limited Depth to water	1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
63G: Stumptown, extremely stony----	40	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.77	Somewhat limited Large stones Thin layer Seepage	0.77 0.77 0.43	Very limited Depth to water	1.00
Marbleyard, extremely stony----	35	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.66	Very limited Seepage Large stones	1.00 0.30	Very limited Depth to water	1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
64E: Stumptown, very stony-----	50	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.77	Somewhat limited Large stones Thin layer Seepage	0.77 0.77 0.43	Very limited Depth to water	1.00
Sylco, very stony---	45	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.88	Somewhat limited Thin layer Seepage Large stones	0.88 0.37 0.17	Very limited Depth to water	1.00
64F: Stumptown, very stony-----	50	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.77	Somewhat limited Large stones Thin layer Seepage	0.77 0.77 0.43	Very limited Depth to water	1.00
Sylco, very stony---	35	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.88	Somewhat limited Thin layer Seepage Large stones	0.88 0.37 0.17	Very limited Depth to water	1.00
65E: Sylco, very rocky---	45	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.88	Somewhat limited Thin layer Seepage Large stones	0.88 0.37 0.17	Very limited Depth to water	1.00

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65E: Marbleyard, very rocky-----	40	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.66	Very limited Seepage Large stones	1.00 0.30	Very limited Depth to water	1.00
65F: Sylco, very rocky---	50	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.88	Somewhat limited Thin layer Seepage Large stones	0.88 0.37 0.17	Very limited Depth to water	1.00
Marbleyard, very rocky-----	45	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.66	Very limited Seepage Large stones	1.00 0.30	Very limited Depth to water	1.00
65G: Sylco, very rocky---	50	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.88	Somewhat limited Thin layer Seepage Large stones	0.88 0.37 0.17	Very limited Depth to water	1.00
Marbleyard, very rocky-----	35	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.66	Very limited Seepage Large stones	1.00 0.30	Very limited Depth to water	1.00

Table 14.--Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
66C: Thunder, very bouldery-----	50	Very limited Seepage Slope	1.00 1.00	Very limited Large stones	1.00	Very limited Depth to water	1.00
Saunook, very bouldery-----	30	Very limited Slope Seepage	1.00 0.70	Not limited		Very limited Depth to water	1.00
66E: Thunder, very bouldery-----	50	Very limited Seepage Slope	1.00 1.00	Very limited Large stones	1.00	Very limited Depth to water	1.00
Saunook, very bouldery-----	30	Very limited Slope Seepage	1.00 0.70	Not limited		Very limited Depth to water	1.00
66F: Thunder, very bouldery-----	50	Very limited Seepage Slope	1.00 1.00	Very limited Large stones	1.00	Very limited Depth to water	1.00
Saunook, very bouldery-----	30	Very limited Slope Seepage	1.00 0.70	Not limited		Very limited Depth to water	1.00

Table 14.--Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
67C: Tumblung-----	50	Very limited Slope Seepage	1.00 0.70	Very limited Piping	1.00	Very limited Depth to water	1.00
Vanella-----	40	Very limited Slope Seepage	1.00 0.70	Not limited		Very limited Depth to water	1.00
67D: Tumblung-----	50	Very limited Slope Seepage	1.00 0.70	Very limited Piping	1.00	Very limited Depth to water	1.00
Vanella-----	40	Very limited Slope Seepage	1.00 0.70	Not limited		Very limited Depth to water	1.00
67E: Tumblung-----	50	Very limited Slope Seepage	1.00 0.70	Very limited Piping	1.00	Very limited Depth to water	1.00
Vanella-----	40	Very limited Slope Seepage	1.00 0.70	Not limited		Very limited Depth to water	1.00
68D: Tumblung-----	35	Very limited Slope Seepage	1.00 0.70	Very limited Piping	1.00	Very limited Depth to water	1.00

Table 14.--Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
68D: Vanella-----	30	Very limited Slope	1.00	Not limited		Very limited Depth to water	1.00
		Seepage	0.70				
Urban land-----	25	Not rated		Not rated		Not rated	
69A: Tygart-----	55	Not limited		Very limited Ponding	1.00	Somewhat limited Slow refill	0.30
				Depth to saturated zone	1.00	Unstable	0.10
				Piping	0.12	excavation walls	
Purdy-----	40	Not limited		Very limited Ponding	1.00	Somewhat limited Slow refill	0.97
				Depth to saturated zone	1.00	Unstable	0.10
				Piping	0.15	excavation walls	
70: Udorthents, refuse substratum-----	85	Not rated		Not rated		Not rated	
71: Udorthents	50	Not rated		Not rated		Not rated	
Urban land-----	45	Not rated		Not rated		Not rated	

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
72C: Unaka, very stony----	60	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.93	Somewhat limited Thin layer	0.93	Very limited Depth to water	1.00
Plott, very stony----	30	Very limited Seepage Slope	1.00 1.00	Not limited		Very limited Depth to water	1.00
72E: Unaka, very stony----	65	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.93	Somewhat limited Thin layer	0.93	Very limited Depth to water	1.00
Plott, very stony----	30	Very limited Seepage Slope	1.00 1.00	Not limited		Very limited Depth to water	1.00
73C: Vanella, very stony-----	50	Very limited Slope Seepage	1.00 0.70	Not limited		Very limited Depth to water	1.00
Tumbling, very stony-----	40	Very limited Slope Seepage	1.00 0.70	Very limited Piping	1.00	Very limited Depth to water	1.00



Table 14.--Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73E: Vanella, very stony-----	50	Very limited Slope Seepage	1.00 0.70	Not limited		Very limited Depth to water	1.00
Tumbling, very stony-----	40	Very limited Slope Seepage	1.00 0.70	Very limited Piping	1.00	Very limited Depth to water	1.00
74C: Watahala, very stony-----	60	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.06	Very limited Depth to water	1.00
Frederick, very stony-----	30	Very limited Slope Seepage	1.00 0.70	Somewhat limited Hard to pack	0.02	Very limited Depth to water	1.00
74E: Watahala, very stony-----	50	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.06	Very limited Depth to water	1.00
Frederick, very stony-----	35	Very limited Slope Seepage	1.00 0.70	Somewhat limited Hard to pack	0.02	Very limited Depth to water	1.00

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74F: Watahala, very stony-----	60	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.06	Very limited Depth to water	1.00
Frederick, very stony-----	20	Very limited Slope Seepage	1.00 0.70	Somewhat limited Hard to pack	0.02	Very limited Depth to water	1.00
75E: Weikert-----	45	Very limited Slope Depth to bedrock Seepage	1.00 1.00 0.01	Very limited Thin layer Seepage	1.00 0.02	Very limited Depth to water	1.00
Berks-----	30	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.86	Somewhat limited Thin layer	0.86	Very limited Depth to water	1.00
Rough-----	20	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
75F: Weikert-----	45	Very limited Slope Depth to bedrock Seepage	1.00 1.00 0.01	Very limited Thin layer Seepage	1.00 0.02	Very limited Depth to water	1.00

Table 14.-Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75F: Berk-----	30	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.86	Somewhat limited Thin layer	0.86	Very limited Depth to water	1.00
Rough-----	15	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
76G: Weikert-----	35	Very limited Slope Depth to bedrock Seepage	1.00 1.00 0.01	Very limited Thin layer Seepage	1.00 0.02	Very limited Depth to water	1.00
Rough-----	30	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	
77C: Wintergreen-----	90	Very limited Slope Seepage	1.00 0.70	Somewhat limited Hard to pack	0.46	Very limited Depth to water	1.00
77D: Wintergreen-----	90	Very limited Slope Seepage	1.00 0.70	Somewhat limited Hard to pack	0.46	Very limited Depth to water	1.00

Table 14.--Water Management--Continued

Map unit symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
77E: Wintergreen-----	90	Very limited Slope Seepage	1.00 0.70	Somewhat limited Hard to pack	0.46	Very limited Depth to water	1.00
78E: Wintergreen, very stony-----	85	Very limited Slope Seepage		Somewhat limited Hard to pack	0.46	Very limited Depth to water	1.00
79A: Wolfgap-----	90	Somewhat limited Seepage	0.70	Very limited Piping	1.00	Very limited Depth to water	1.00
80A: Wolfgap-----	35	Somewhat limited Seepage	0.70	Very limited Piping	1.00	Very limited Depth to water	1.00
Derroc-----	30	Very limited Seepage	1.00	Somewhat limited Large stones Seepage	0.25 0.83	Very limited Depth to water	1.00
Urban land-----	25	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Table 15.—Engineering Properties

(Absence of an entry indicates that the data were not estimated. An asterisk [\*] denotes the representative texture)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
1A: Alonzville, rarely flooded-----	In					Pct	Pct			
	0-5	*Loam	*CL, SC-SM	*A-4,		0	0	80-100	80-100	65-95
	5-15	*Loam, Silt loam, fine sandy loam	*CL, SM	*A-4,		0	0	80-100	80-100	60-95
	15-55	*Clay loam, Silty clay loam, loam, silt loam	*CL, SC-SM	*A-6, A-4		0	0	80-100	80-100	60-95
	55-65	*Gravelly loam, Clay loam, gravelly sandy clay loam	*GC, CL, GM	*A-4, A-2, A-6		0	0	60-100	55-100	40-100
2B: Alonzville-----										
	0-5	*Loam	*CL, SC-SM	*A-4,		0	0	80-100	80-100	65-95
	5-15	*Loam, Silt loam, fine sandy loam	*CL, SM	*A-4,		0	0	80-100	80-100	60-95
	15-55	*Clay loam, Silty clay loam, loam, silt loam	*CL, SC-SM	*A-6, A-4		0	0	80-100	80-100	60-95
	55-65	*Gravelly loam, Clay loam, gravelly sandy clay loam	*GC, CL, GM	*A-4, A-2, A-6		0	0	60-100	55-100	40-100
3B: Alonzville-----										
	0-5	*Loam	*CL, SC-SM	*A-4,		0	0	80-100	80-100	65-95
	5-15	*Loam, Silt loam, fine sandy loam	*CL, SM	*A-4,		0	0	80-100	80-100	60-95
	15-55	*Clay loam, Silty clay loam, loam, silt loam	*CL, SC-SM	*A-6, A-4		0	0	80-100	80-100	60-95
	55-65	*Gravelly loam, Clay loam, gravelly sandy clay loam	*GC, CL, GM	*A-4, A-2, A-6		0	0	60-100	55-100	40-100

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	Pct	4	10	40
3B: Urban land.	In				Pct	Pct				
4C: Berks-----	0-3	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	15-25	65-85	65-85	65-85	60-85
	3-9	*Channery silt loam, Very channery silt loam, channery loam	*CL-ML, CL, GM	*A-4, A-2	0	15-65	45-85	40-85	40-85	35-85
	9-27	*Very channery silt loam, Very channery loam, extremely channery silt loam	*GC-GM, GC, GM	*A-4, A-1	0	15-25	30-65	25-60	25-60	20-60
	27-30	*Extremely channery silt loam, Very channery silt loam, very channery loam	*GC-GM, CL, GM	*A-2, A-1, A-4	0	25-45	25-65	20-65	20-65	20-65
	30-40	*Bedrock	---	---	---	---	---	---	---	---
	0-4	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	8-20	60-85	55-80	55-80	50-80
	4-14	*Very channery silt loam, Very channery loam	*GC-GM, GC, GM	*A-4, A-1	0	15-25	35-60	35-60	35-60	25-60
	14-17	*Extremely channery silt loam, Extremely channery loam	*GC-GM, GC, GP-GM	*A-2, A-1	0	35-45	20-45	15-40	15-40	15-40
	17-27	*Bedrock	---	---	---	---	---	---	---	---
Weikert-----										

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
5A: Botetourt-----	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
	0-7	*Loam	*CL-ML, SM, CL	*A-4,	0	0-10	85-100	85-100	65-95	
	7-44	*Clay loam, loam, gravelly sandy clay loam	*CL, GC-GM	*A-6, A-4	0	0-15	65-100	65-100	50-95	
	44-53	*Loam, Clay loam, gravelly sandy clay loam	*CL, GC-GM	*A-4, A-6	0	0-15	65-100	65-100	50-100	
	53-65	*Gravelly sandy clay loam, Clay loam, very gravelly loam, cobbly sandy loam	*SC, GC-GM, CL	*A-4, A-1, A-6	0	0-20	50-100	50-100	40-95	
6A: Botetourt-----	0-7	*Loam	*CL-ML, SM, CL	*A-4,	0	0-10	85-100	85-100	65-95	
	7-44	*Clay loam, loam, gravelly sandy clay loam	*CL, GC-GM	*A-6, A-4	0	0-15	65-100	65-100	50-95	
	44-53	*Loam, Clay loam, gravelly sandy clay loam	*CL, GC-GM	*A-4, A-6	0	0-15	65-100	65-100	50-100	
	53-65	*Gravelly sandy clay loam, Clay loam, very gravelly loam, cobbly sandy loam	*SC, GC-GM, CL	*A-4, A-1, A-6	0	0-20	50-100	50-100	40-95	
Urban land.										

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40		
	<u>In</u>				<u>Pct</u>	<u>Pct</u>					
7A: Buckton-----	0-7	*Silt loam	*CL-ML, CL	*A-4,			0	0	95-100	95-100	90-100
	7-48	*Silt loam, Silty clay loam	*CL, CL-ML	*A-4, A-6			0	0	95-100	95-100	90-100
	48-73	*Fine sand, Sandy loam, silt loam, clay loam, loam	*SM, SC, SP-SM	*A-2, A-3, A-6			0	0-7	65-100	60-100	55-100
Weaver-----	0-10	*Silt loam	*CL-ML, CL	*A-4,			0	0	80-100	80-100	70-100
	10-49	*Silt loam, Silty clay loam	*CL, CL-ML	*A-4, A-6			0	0	80-100	80-100	70-100
	49-60	*Gravelly silty clay loam, Silt loam, loam, clay loam	*CL, GM	*A-6, A-2			0	0	55-100	50-100	40-100
8F: Caneyville-----	0-3	*Silt loam	*CL, CL-ML	*A-6, A-4			0	0-9	80-100	80-100	70-100
	3-6	*Silt loam, loam	*CL, CL-ML	*A-6, A-4			0	0-8	85-100	85-100	70-100
	6-12	*Silty clay loam, Silty clay, clay	*CL, CH	*A-7,			0	0-8	75-100	75-100	70-100
	12-25	*Clay, Silty clay	*CH, CL	*A-7,			0	0-8	75-100	75-100	60-100
	25-35	*Bedrock	---	---			---	---	---	---	---
Frederick-----	0-9	*Silt loam	*CL, CL-ML	*A-4,			0	0	75-100	70-100	65-100
	9-16	*Silty clay loam, Clay loam, silty clay, clay	*CL, MH	*A-7, A-6			0	0	75-100	75-100	70-100
	16-41	*Clay, Silty clay	*MH, CL	*A-7,			0	0	75-100	75-100	60-100
	41-74	*Clay, Silty clay	*MH, CL	*A-7,			0	0	75-100	75-100	60-100
Rock outcrop.											



Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	60
9C: Carbo, very rocky-----	In				Pct	Pct				
	0-3	*Silty clay loam	*Cl,	*A-7, A-6	0	0-1		80-100	80-100	70-100
	3-25	*Clay	*CH,	*A-7,	0	0-1		75-100	75-100	65-100
Opequon, very rocky-----	25-35	*Bedrock	---	---	---	---		---	---	---
	0-2	*Silty clay loam	*Cl,	*A-7, A-6	0	0-4		75-100	75-100	65-100
	2-14	*Clay, Silty clay loam, gravelly clay, channery silty clay	*CH, GC	*A-7, A-2	0	0-7		55-100	55-100	35-100
9E: Carbo, very rocky-----	14-24	*Bedrock	---	---	---	---		---	---	---
	0-3	*Silty clay loam	*Cl,	*A-7, A-6	0	0-1		80-100	80-100	70-100
	3-25	*Clay	*CH,	*A-7,	0	0-1		75-100	75-100	65-100
Opequon, very rocky-----	25-35	*Bedrock	---	---	---	---		---	---	---
	0-2	*Silty clay loam	*Cl,	*A-7, A-6	0	0-4		75-100	75-100	65-100
	2-14	*Clay, Silty clay loam, gravelly clay, channery silty clay	*CH, GC	*A-7, A-2	0	0-7		55-100	55-100	35-100
10F: Carbo-----	14-24	*Bedrock	---	---	---	---		---	---	---
	0-3	*Silty clay loam	*Cl,	*A-7, A-6	0	0-1		80-100	80-100	70-100
	3-25	*Clay	*CH,	*A-7,	0	0-1		75-100	75-100	65-100
	25-35	*Bedrock	---	---	---	---		---	---	---

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	Pct	4	10	40
	In				Pct	Pct				
10F:										
Opequon-----	0-2	*Silty clay loam	*CL,	*A-7, A-6	0	0-4		75-100	75-100	65-100
	2-14	*Clay, Silty clay loam, gravelly clay, channery silty clay	*CH, GC	*A-7, A-2	0	0-7		55-100	55-100	35-100
	14-24	*Bedrock	---	---	---	---		---	---	---
Rock outcrop.										
11B:										
Cottonbend-----	0-11	*Loam	*CL-ML, CL, SM	*A-4,	0	0-5		75-100	75-100	65-100
	11-20	*Gravelly loam, Loam, fine sandy loam	*GC-GM, GM, CL	*A-2, A-1, A-4	0	0-15		55-100	55-100	45-100
	20-27	*Gravelly loam, Loam, clay loam, silty clay loam, sandy clay loam	*GC, CL, GC-GM	*A-4, A-2, A-6	0	0-15		55-100	55-100	45-100
	27-43	*Loam, Clay loam, silty clay loam, sandy clay loam, gravelly loam	*CL, GC-GM	*A-4, A-2, A-6	0	0-15		55-100	55-100	45-100
	43-54	*Clay loam, Loam, sandy clay loam, silty clay loam, gravelly loam, very cobbly clay loam	*CL, GC-GM	*A-6, A-4, A-1	0	0-45		45-100	40-100	35-95
	54-68	*Very cobbly clay loam, Clay loam, sandy clay loam, clay, gravelly sandy clay loam	*SC, MH, GC-GM	*A-6, A-4, A-7	0-20	0-55		45-100	40-100	25-95

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	inches	inches	4	10	40	40
	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
11C: Cottonbend-----										
	0-11	*Loam	*CL-ML, CL, SM	*A-4,	0	0-5	75-100	75-100	65-100	
	11-20	*Gravelly loam, Loam, fine sandy loam	*GC-GM, GM, CL	*A-2, A-1, A-4	0	0-15	55-100	55-100	45-100	
	20-27	*Gravelly loam, Loam, clay loam, silty clay loam, sandy clay loam	*GC, CL, GC-GM	*A-4, A-2, A-6	0	0-15	55-100	55-100	45-100	
	27-43	*Loam, Clay loam, silty clay loam, sandy clay loam, gravelly loam	*CL, GC-GM	*A-4, A-2, A-6	0	0-15	55-100	55-100	45-100	
	43-54	*Clay loam, Loam, sandy clay loam, silty clay loam, gravelly loam, very cobbly clay loam	*CL, GC-GM	*A-6, A-4, A-1	0	0-45	45-100	40-100	35-95	
	54-68	*Very cobbly clay loam, Clay loam, sandy clay loam, clay, gravelly sandy clay loam	*SC, MH, GC-GM	*A-6, A-4, A-7	0-20	0-55	45-100	40-100	25-95	
12A: Coursey, rarely flooded-----	0-17	*Loam	*CL-ML, CL, SM	*A-4,	0	0-5	80-100	80-100	60-95	
	17-28	*Loam, Clay loam, gravelly sandy clay loam	*CL, GC-GM	*A-4, A-2, A-6	0	0-5	60-100	55-100	45-100	
	28-58	*Clay loam, Loam, gravelly sandy clay loam	*CL, GC-GM	*A-6, A-2	0	0-5	60-100	55-100	45-95	
	58-63	*Sandy clay loam, Gravelly loam, clay loam	*SC, CL, GC-GM	*A-4, A-1, A-6	0	0-5	60-100	55-100	45-100	

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
13B: Coursey-----	In				Pct	Pct				
	0-17	*Loam	*CL-ML, CL, SM	*A-4,	0	0-5	80-100	80-100	60-95	
	17-28	*Loam, Clay loam, gravelly sandy clay loam	*CL, GC-GM	*A-4, A-2, A-6	0	0-5	60-100	55-100	45-100	
	28-58	*Clay loam, loam, gravelly sandy clay loam	*CL, GC-GM	*A-6, A-2	0	0-5	60-100	55-100	45-95	
	58-63	*Sandy clay loam, Gravelly loam, clay loam	*SC, CL, GC-GM	*A-4, A-1, A-6	0	0-5	60-100	55-100	45-100	
14C: Dekalb, very stony-----	0-2	*Channery fine sandy loam	*SC-SM, SM	*A-4, A-2	0	10-25	70-90	70-90	60-85	
	2-12	*Channery fine sandy loam, Very channery sandy loam, very channery loam, flaggy sandy loam	*SC-SM, GM	*A-2, A-1, A-4	0	10-50	45-90	45-90	30-70	
	12-22	*Very channery sandy loam, Very channery fine sandy loam, very channery loam, very flaggy sandy loam	*GC-GM, SC-SM, GM	*A-1, A-2	0	20-65	45-70	45-70	30-60	
	22-32	*Extremely flaggy loamy sand, Very channery sandy loam, extremely channery sandy loam	*GM, GC-GM, GP-GM	*A-1, A-2	0	20-80	25-70	20-70	15-65	
	32-42	*Bedrock	---	---	---	---	---	---	---	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
14C: Lehew, very stony-----	In				Pct	Pct				
	0-4	*Very channery fine sandy loam	*SM, GC-GM, GM	*A-2, A-1	0	30-45	45-70	40-70	135-65	
	4-24	*Very channery fine sandy loam, Channery loam, very flaggy	*GC-GM, SC-SM, GM	*A-2, A-1, A-4	0	15-50	45-85	40-85	135-85	
	24-37	*Extremely flaggy sandy loam, Very channery loam, extremely channery loamy sand, very channery fine sandy loam	*GC-GM, GP-GM	*A-1, A-2	0	20-75	20-70	20-70	115-55	
	37-47	*Bedrock	---	---	---	---	---	---	---	
	0-3	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	15-25	65-85	65-85	60-85	
	3-9	*Channery silt loam, Very channery silt loam, channery loam	*CL-ML, CL, GM	*A-4, A-2	0	15-65	45-85	40-85	135-85	
	9-27	*Very channery silt loam, Very channery loam, extremely channery silt loam	*GC-GM, GC, GM	*A-4, A-1	0	15-25	30-65	25-60	120-60	
	27-30	*Extremely channery silt loam, Very channery silt loam, very channery loam	*GC-GM, CL, GM	*A-2, A-1, A-4	0	25-45	25-65	20-65	120-65	
	30-40	*Bedrock	---	---	---	---	---	---	---	
Berks, very stony-----	0-3	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	15-25	65-85	65-85	60-85	
	3-9	*Channery silt loam, Very channery silt loam, channery loam	*CL-ML, CL, GM	*A-4, A-2	0	15-65	45-85	40-85	135-85	
	9-27	*Very channery silt loam, Very channery loam, extremely channery silt loam	*GC-GM, GC, GM	*A-4, A-1	0	15-25	30-65	25-60	120-60	
	27-30	*Extremely channery silt loam, Very channery silt loam, very channery loam	*GC-GM, CL, GM	*A-2, A-1, A-4	0	25-45	25-65	20-65	120-65	
	30-40	*Bedrock	---	---	---	---	---	---	---	
	0-3	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	15-25	65-85	65-85	60-85	
	3-9	*Channery silt loam, Very channery silt loam, channery loam	*CL-ML, CL, GM	*A-4, A-2	0	15-65	45-85	40-85	135-85	
	9-27	*Very channery silt loam, Very channery loam, extremely channery silt loam	*GC-GM, GC, GM	*A-4, A-1	0	15-25	30-65	25-60	120-60	
	27-30	*Extremely channery silt loam, Very channery silt loam, very channery loam	*GC-GM, CL, GM	*A-2, A-1, A-4	0	25-45	25-65	20-65	120-65	
	30-40	*Bedrock	---	---	---	---	---	---	---	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
14E: Dekalb, very stony-----	In				Pct	Pct			
	0-2	*Channery fine sandy loam	*SC-SM, SM	*A-4, A-2	0	10-25	70-90	70-90	60-85
	2-12	*Channery fine sandy loam, Very channery sandy loam, very channery loam, flaggy sandy loam	*SC-SM, GM	*A-2, A-1, A-4	0	10-50	45-90	45-90	30-70
	12-22	*Very channery sandy loam, Very channery fine sandy loam, very channery loam, very flaggy sandy loam	*GC-GM, SC-SM, GM	*A-1, A-2	0	20-65	45-70	45-70	30-60
	22-32	*Extremely flaggy loamy sand, Very channery sandy loam, extremely channery sandy loam	*GM, GC-GM, GP-GM	*A-1, A-2	0	20-80	25-70	20-70	15-65
	32-42	*Bedrock	---	---	---	---	---	---	---

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
14E: Lehew, very stony-----	In				Pct	Pct				
	0-4	*Very channery fine sandy loam	*SM, GC-GM, GM	*A-2, A-1	0	30-45	45-70	40-70	135-65	
	4-24	*Very channery fine sandy loam, Channery loam, very flaggy	*GC-GM, SC-SM, GM	*A-2, A-1, A-4	0	15-50	45-85	40-85	135-85	
	24-37	*Extremely flaggy sandy loam, Very channery loam, extremely channery loamy sand, very channery fine sandy loam	*GC-GM, GP-GM	*A-1, A-2	0	20-75	20-70	20-70	115-55	
	37-47	*Bedrock	---	---	---	---	---	---	---	
	0-3	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	15-25	65-85	65-85	60-85	
	3-9	*Channery silt loam, Very channery silt loam, channery loam	*CL-ML, CL, GM	*A-4, A-2	0	15-65	45-85	40-85	135-85	
	9-27	*Very channery silt loam, Very channery loam, extremely channery silt loam	*GC-GM, GC, GM	*A-4, A-1	0	15-25	30-65	25-60	120-60	
	27-30	*Extremely channery silt loam, Very channery silt loam, very channery loam	*GC-GM, CL, GM	*A-2, A-1, A-4	0	25-45	25-65	20-65	120-65	
	30-40	*Bedrock	---	---	---	---	---	---	---	
Berks, very stony-----	0-3	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	15-25	65-85	65-85	60-85	
	3-9	*Channery silt loam, Very channery silt loam, channery loam	*CL-ML, CL, GM	*A-4, A-2	0	15-65	45-85	40-85	135-85	
	9-27	*Very channery silt loam, Very channery loam, extremely channery silt loam	*GC-GM, GC, GM	*A-4, A-1	0	15-25	30-65	25-60	120-60	
	27-30	*Extremely channery silt loam, Very channery silt loam, very channery loam	*GC-GM, CL, GM	*A-2, A-1, A-4	0	25-45	25-65	20-65	120-65	
	30-40	*Bedrock	---	---	---	---	---	---	---	
	0-3	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	15-25	65-85	65-85	60-85	
	3-9	*Channery silt loam, Very channery silt loam, channery loam	*CL-ML, CL, GM	*A-4, A-2	0	15-65	45-85	40-85	135-85	
	9-27	*Very channery silt loam, Very channery loam, extremely channery silt loam	*GC-GM, GC, GM	*A-4, A-1	0	15-25	30-65	25-60	120-60	
	27-30	*Extremely channery silt loam, Very channery silt loam, very channery loam	*GC-GM, CL, GM	*A-2, A-1, A-4	0	25-45	25-65	20-65	120-65	
	30-40	*Bedrock	---	---	---	---	---	---	---	

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passin sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
14F: Dekalb, very stony-----	<u>In</u>				<u>Pct</u>	<u>Pct</u>			
	0-2	*Channery fine sandy loam	*SC-SM, SM	*A-4, A-2	0	10-25	70-90	70-90	60-85
	2-12	*Channery fine sandy loam, Very channery sandy loam, very channery loam, flaggy sandy loam	*SC-SM, GM	*A-2, A-1, A-4	0	10-50	45-90	45-90	30-70
	12-22	*Very channery sandy loam, Very channery fine sandy loam, very channery loam, very flaggy sandy loam	*GC-GM, SC-SM, GM	*A-1, A-2	0	20-65	45-70	45-70	30-60
	22-32	*Extremely flaggy loamy sand, Very channery sandy loam, extremely channery sandy loam	*GM, GC-GM, GP-GM	*A-1, A-2	0	20-80	25-70	20-70	15-65
	32-42	*Bedrock	---	---	---	---	---	---	---



Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
14F: Lehew, very stony-----	In				Pct	Pct				
	0-4	*Very channery fine sandy loam	*SM, GC-GM, GM	*A-2, A-1	0	30-45	45-70	40-70	135-65	
	4-24	*Very channery fine sandy loam, Channery loam, very flaggy	*GC-GM, SC-SM, GM	*A-2, A-1, A-4	0	15-50	45-85	40-85	135-85	
	24-37	*Extremely flaggy sandy loam, Very channery loam, extremely channery loamy sand, very channery fine sandy loam	*GC-GM, GP-GM	*A-1, A-2	0	20-75	20-70	20-70	115-55	
	37-47	*Bedrock	---	---	---	---	---	---	---	
	0-3	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	15-25	65-85	65-85	160-85	
	3-9	*Channery silt loam, Very channery silt loam, channery loam	*CL-ML, CL, GM	*A-4, A-2	0	15-65	45-85	40-85	135-85	
	9-27	*Very channery silt loam, Very channery loam, extremely channery silt loam	*GC-GM, GC, GM	*A-4, A-1	0	15-25	30-65	25-60	120-60	
	27-30	*Extremely channery silt loam, Very channery silt loam, very channery loam	*GC-GM, CL, GM	*A-2, A-1, A-4	0	25-45	25-65	20-65	120-65	
	30-40	*Bedrock	---	---	---	---	---	---	---	
Berks, very stony-----	0-3	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	15-25	65-85	65-85	160-85	
	3-9	*Channery silt loam, Very channery silt loam, channery loam	*CL-ML, CL, GM	*A-4, A-2	0	15-65	45-85	40-85	135-85	
	9-27	*Very channery silt loam, Very channery loam, extremely channery silt loam	*GC-GM, GC, GM	*A-4, A-1	0	15-25	30-65	25-60	120-60	
	27-30	*Extremely channery silt loam, Very channery silt loam, very channery loam	*GC-GM, CL, GM	*A-2, A-1, A-4	0	25-45	25-65	20-65	120-65	
	30-40	*Bedrock	---	---	---	---	---	---	---	
	0-3	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	15-25	65-85	65-85	160-85	
	3-9	*Channery silt loam, Very channery silt loam, channery loam	*CL-ML, CL, GM	*A-4, A-2	0	15-65	45-85	40-85	135-85	
	9-27	*Very channery silt loam, Very channery loam, extremely channery silt loam	*GC-GM, GC, GM	*A-4, A-1	0	15-25	30-65	25-60	120-60	
	27-30	*Extremely channery silt loam, Very channery silt loam, very channery loam	*GC-GM, CL, GM	*A-2, A-1, A-4	0	25-45	25-65	20-65	120-65	
	30-40	*Bedrock	---	---	---	---	---	---	---	

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passin sieve number---		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
15E: Dekalb, extremely stony-----	In				Pct	Pct			
	0-2	*Channery fine sandy loam	*SC-SM, SM	*A-4, A-2	0	10-25	70-90	70-90	60-85
	2-12	*Channery fine sandy loam, Very channery sandy loam, very channery loam, flaggy sandy loam	*SC-SM, GM	*A-2, A-1, A-4	0	10-50	45-90	45-90	30-70
	12-22	*Very channery sandy loam, Very channery fine sandy loam, very channery loam, very flaggy sandy loam	*GC-GM, SC-SM, GM	*A-1, A-2	0	20-65	45-70	45-70	30-60
	22-32	*Extremely flaggy loamy sand, Very channery sandy loam, extremely channery sandy loam	*GM, GC-GM, GP-GM	*A-1, A-2	0	20-80	25-70	20-70	15-65
32-42	*Bedrock	---	---	---	---	---	---	---	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
15E: Lehew, extremely stony-----	In				Pct	Pct				
	0-4	*Very channery fine sandy loam	*SM, GC-GM, GM	*A-2, A-1	0	30-45	45-70	40-70	135-65	
	4-24	*Very channery fine sandy loam, Channery loam, very flaggy	*GC-GM, SC-SM, GM	*A-2, A-1, A-4	0	15-50	45-85	40-85	135-85	
		sandy loam								
	24-37	*Extremely flaggy sandy loam, Very channery loam, extremely channery loamy sand, very channery fine sandy loam	*GC-GM, GP-GM	*A-1, A-2	0	20-75	20-70	20-70	15-55	
	37-47	*Bedrock	---	---	---	---	---	---	---	
Rock outcrop.										

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
15F: Dekalb, extremely stony	In				Pct	Pct				
	0-2	*Channery fine sandy loam	*SC-SM, SM	*A-4, A-2	0	10-25	70-90	70-90	60-85	
	2-12	*Channery fine sandy loam, Very channery sandy loam, very channery loam, flaggy sandy loam	*SC-SM, GM	*A-2, A-1, A-4	0	10-50	45-90	45-90	30-70	
	12-22	*Very channery sandy loam, Very channery fine sandy loam, very channery loam, very flaggy sandy loam	*GC-GM, SC-SM, GM	*A-1, A-2	0	20-65	45-70	45-70	30-60	
	22-32	*Extremely flaggy loamy sand, Very channery sandy loam, extremely channery sandy loam	*GM, GC-GM, GP-GM	*A-1, A-2	0	20-80	25-70	20-70	15-65	
	32-42	*Bedrock	---	---	---	---	---	---	---	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
15F: Lehew, extremely stony-----	In				Pct	Pct				
	0-4	*Very channery fine sandy loam	*SM, GC-GM, GM	*A-2, A-1	0	30-45	45-70	40-70	135-65	
	4-24	*Very channery fine sandy loam, Channery loam, very flaggy	*GC-GM, SC-SM, GM	*A-2, A-1, A-4	0	15-50	45-85	40-85	135-85	
		sandy loam								
	24-37	*Extremely flaggy sandy loam, Very channery loam, extremely channery loamy sand, very channery fine sandy loam	*GC-GM, GP-GM	*A-1, A-2	0	20-75	20-70	20-70	15-55	
	37-47	*Bedrock	---	---	---	---	---	---	---	
Rock outcrop.										

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
16C: Dekalb, very stony-----	In				Pct	Pct				
	0-2	*Channery fine sandy loam	*SC-SM, SM	*A-4, A-2	0	10-25	70-90	70-90	60-85	
	2-12	*Channery fine sandy loam, Very channery sandy loam, very channery loam, flaggy sandy loam	*SC-SM, GM	*A-2, A-1, A-4	0	10-50	45-90	45-90	30-70	
	12-22	*Very channery sandy loam, Very channery fine sandy loam, very channery loam, very flaggy sandy loam	*GC-GM, SC-SM, GM	*A-1, A-2	0	20-65	45-70	45-70	30-60	
	22-32	*Extremely flaggy loamy sand, Very channery sandy loam, extremely channery sandy loam	*GM, GC-GM, GP-GM	*A-1, A-2	0	20-80	25-70	20-70	15-65	
	32-42	*Bedrock	---	---	---	---	---	---	---	
	0-3	*Sandy loam	*SC-SM, SM, SC	*A-2, A-1	0	0-2	80-95	75-90	45-65	
	3-17	*Loam, Gravelly sandy loam, Gravelly fine sandy loam	*CL-ML, CL, SM	*A-4, A-1	0	0	65-90	55-90	30-85	
	17-32	*Clay loam, Sandy clay loam, gravelly loam, gravelly clay loam	*CL, SC-SM	*A-6, A-2	0	0	60-90	50-90	40-90	
	32-42	*Bedrock	---	---	---	---	---	---	---	
Lily, very stony-----										

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
16E: Dekalb, very stony-----	In				Pct	Pct				
	0-2	*Channery fine sandy loam	*SC-SM, SM	*A-4, A-2	0	10-25	70-90	70-90	60-85	
	2-12	*Channery fine sandy loam, Very channery sandy loam, very channery loam, flaggy sandy loam	*SC-SM, GM	*A-2, A-1, A-4	0	10-50	45-90	45-90	30-70	
	12-22	*Very channery sandy loam, Very channery fine sandy loam, very channery loam, very flaggy sandy loam	*GC-GM, SC-SM, GM	*A-1, A-2	0	20-65	45-70	45-70	30-60	
	22-32	*Extremely flaggy loamy sand, Very channery sandy loam, extremely channery sandy loam	*GM, GC-GM, GP-GM	*A-1, A-2	0	20-80	25-70	20-70	15-65	
	32-42	*Bedrock	---	---	---	---	---	---	---	
	0-3	*Sandy loam	*SC-SM, SM, SC	*A-2, A-1	0	0-2	80-95	75-90	45-65	
	3-17	*Loam, Gravelly sandy loam, Gravelly fine sandy loam	*CL-ML, CL, SM	*A-4, A-1	0	0	65-90	55-90	30-85	
	17-32	*Clay loam, Sandy clay loam, gravelly loam, gravelly clay loam	*CL, SC-SM	*A-6, A-2	0	0	60-90	50-90	140-90	
	32-42	*Bedrock	---	---	---	---	---	---	---	
Lily, very stony-----										

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
17F: Dekalb, very stony-----	In				Pct	Pct			
	0-2	*Channery fine sandy loam	*SC-SM, SM	*A-4, A-2	0	10-25	70-90	70-90	60-85
	2-12	*Channery fine sandy loam, Very channery sandy loam, very channery loam, flaggy sandy loam	*SC-SM, GM	*A-2, A-1, A-4	0	10-50	45-90	45-90	30-70
	12-22	*Very channery sandy loam, Very channery fine sandy loam, very channery loam, very flaggy sandy loam	*GC-GM, SC-SM, GM	*A-1, A-2	0	20-65	45-70	45-70	30-60
	22-32	*Extremely flaggy loamy sand, Very channery sandy loam, extremely channery sandy loam	*GM, GC-GM, GP-GM	*A-1, A-2	0	20-80	25-70	20-70	15-65
	32-42	*Bedrock	---	---	---	---	---	---	---
	0-3	*Sandy loam	*SC-SM, SM, SC	*A-2, A-1	0	0-2	80-95	75-90	45-65
	3-17	*Loam, Gravelly sandy loam, Gravelly fine sandy loam	*CL-ML, CL, SM	*A-4, A-1	0	0	65-90	55-90	30-85
	17-32	*Clay loam, Sandy clay loam, gravelly loam, gravelly clay loam	*CL, SC-SM	*A-6, A-2	0	0	60-90	50-90	40-90
	32-42	*Bedrock	---	---	---	---	---	---	---
Lily, very stony-----									



Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	<u>In</u>				<u>Pct</u>	<u>Pct</u>			
18A: Derroc-----	0-3	*Very cobbly sandy loam	*SM, GM, SC-SM	*A-2, A-1	0-10	25-45	45-75	45-75	30-65
	3-9	*Cobbly sandy loam, Very cobbly sandy loam, gravelly loam	*SM, GM, SC-SM	*A-4, A-1	0-10	15-45	45-95	45-95	30-80
	9-33	*Very cobbly sandy loam, Very cobbly loam, gravelly loam, extremely cobbly sandy loam	*SM, GW-GM, SC-SM	*A-2, A-1	0-10	15-45	35-80	30-80	20-65
	33-63	*Very cobbly loamy sand, Very cobbly sandy loam, gravelly sandy loam, very stony loamy sand	*SM, GP-GM	*A-1, A-2	0-20	15-45	35-80	30-80	20-60
19C: Edneytown-----	0-4	*Loam	*ML, CL-ML, SM	*A-4,	0	0	75-100	75-100	65-95
	4-8	*Loam, Fine sandy loam, sandy loam, gravelly loam	*ML, CL-ML, SM	*A-4,	0	0	50-100	50-100	40-95
	8-36	*Sandy clay loam, Clay loam, loam, gravelly loam	*SC, CL, GC-GM	*A-4, A-1, A-6	0	0	50-100	50-100	40-95
	36-64	*Sandy loam, Loam, fine sandy loam, loamy sand, gravelly loam	*SM, SC-SM	*A-2, A-1, A-4	0	0	50-100	50-100	35-80
	64-74	*Bedrock	---	---	---	---	---	---	---

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
19D: Edneytown-----	0-4	*Loam	*ML, CL-ML, SM	*A-4,	0	0	75-100	75-100	65-95	
	4-8	*Loam, Fine sandy loam, sandy loam, gravelly loam	*ML, CL-ML, SM	*A-4,	0	0	50-100	50-100	40-95	
	8-36	*Sandy clay loam, Clay loam, loam, gravelly loam	*SC, CL, GC-GM	*A-4, A-1, A-6	0	0	50-100	50-100	40-95	
	36-64	*Sandy loam, Loam, fine sandy loam, loamy sand, gravelly loam	*SM, SC-SM	*A-2, A-1, A-4	0	0	50-100	50-100	35-80	
	64-74	*Bedrock	---	---	---	---	---	---	---	
20C: Edneytown, very stony-----	0-4	*Loam	*ML, CL-ML, SM	*A-4,	0	0	75-100	75-100	65-95	
	4-8	*Loam, Fine sandy loam, sandy loam, gravelly loam	*ML, CL-ML, SM	*A-4,	0	0	50-100	50-100	40-95	
	8-36	*Sandy clay loam, Clay loam, loam, gravelly loam	*SC, CL, GC-GM	*A-4, A-1, A-6	0	0	50-100	50-100	40-95	
	36-64	*Sandy loam, Loam, fine sandy loam, loamy sand, gravelly loam	*SM, SC-SM	*A-2, A-1, A-4	0	0	50-100	50-100	35-80	
	64-74	*Bedrock	---	---	---	---	---	---	---	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
20C: Peaks, very stony-----	0-6	*Gravelly sandy loam	*SM, GM, SC-SM	*A-2, A-1	0	0	50-75	50-75	35-60
	6-23	*Very gravelly sandy loam, Very gravelly loam, very gravelly fine sandy loam	*GM, GC-GM, GP-GM	*A-1,	0	0	30-50	25-50	15-40
	23-29	*Bedrock	---	---	---	---	---	---	---
	29-39	*Bedrock	---	---	---	---	---	---	---
20E: Edneytown, very stony-----	0-4	*Loam	*ML, CL-ML, SM	*A-4,	0	0	75-100	75-100	65-95
	4-8	*Loam, Fine sandy loam, sandy loam, gravelly loam	*ML, CL-ML, SM	*A-4,	0	0	50-100	50-100	40-95
	8-36	*Sandy clay loam, Clay loam, loam, gravelly loam	*SC, CL, GC-GM	*A-4, A-1, A-6	0	0	50-100	50-100	40-95
	36-64	*Sandy loam, loam, fine sandy loam, loamy sand, gravelly loam	*SM, SC-SM	*A-2, A-1, A-4	0	0	50-100	50-100	35-80
	64-74	*Bedrock	---	---	---	---	---	---	---

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	60
20E: Peaks, very stony-----	In				Pct	Pct				
	0-6	*Gravelly sandy loam	*SM, GM, SC-SM	*A-2, A-1	0	0	50-75	50-75	135-60	
	6-23	*Very gravelly sandy loam, Very gravelly loam, very gravelly fine sandy loam	*GM, GC-GM, GP-GM	*A-1,	0	0	30-50	25-50	115-40	
	23-29	*Bedrock	---	---	---	---	---	---	---	
	29-39	*Bedrock	---	---	---	---	---	---	---	
20F: Edneytown, very stony-----	0-4	*Loam	*ML, CL-ML, SM	*A-4,	0	0	75-100	75-100	65-95	
	4-8	*Loam, Fine sandy loam, sandy loam, gravelly loam	*ML, CL-ML, SM	*A-4,	0	0	50-100	50-100	40-95	
	8-36	*Sandy clay loam, Clay loam, loam, gravelly loam	*SC, CL, GC-GM	*A-4, A-1, A-6	0	0	50-100	50-100	40-95	
	36-64	*Sandy loam, loam, fine sandy loam, loamy sand, gravelly loam	*SM, SC-SM	*A-2, A-1, A-4	0	0	50-100	50-100	35-80	
	64-74	*Bedrock	---	---	---	---	---	---	---	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	60
20F: Peaks, very stony-----	In				Pct	Pct				
	0-6	*Gravelly sandy loam	*SM, GM, SC-SM	*A-2, A-1	0	0	50-75	50-75	135-60	
	6-23	*Very gravelly sandy loam, Very gravelly loam, very gravelly fine sandy loam	*GM, GC-GM, GP-GM	*A-1,	0	0	30-50	25-50	115-40	
	23-29	*Bedrock	---	---	---	---	---	---	---	
	29-39	*Bedrock	---	---	---	---	---	---	---	
21B: Escatawba-----	0-3	*Loam	*CL, CL-ML, ML	*A-4,	0	0-10	85-100	80-100	70-95	
	3-17	*Loam, Silt loam, cobbly fine sandy loam	*CL, CL-ML, ML, SM, SC, SC-SM	*A-4, A-2-4	0	0-15	80-100	75-100	50-100	
	17-30	*Loam, Gravelly silty clay loam, cobbly clay loam, silt loam	*CL, CL-ML, SC, SC-SM	*A-4, A-6	0	0-15	70-100	60-100	50-100	
	30-50	*Clay loam, Gravelly clay loam, cobbly clay, gravelly silty clay loam	*CL, SC	*A-6, A-7-6	0-5	0-15	70-85	60-85	55-85	
	50-60	*Cobbly clay loam, Very gravelly silty clay loam, gravelly clay	*CL, CH, MH, SC, SM	*A-7, A-6	0-5	10-20	60-85	50-80	45-80	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40		
21C: Escatawba-----	<u>In</u>					<u>Pct</u>	<u>Pct</u>				
	0-3	*Loam	*CL, CL-ML, ML	*A-4,			0	0-10	85-100	80-100	70-95
	3-17	*Loam, Silt loam, cobbly fine sandy loam	*CL, CL-ML, ML, SM, SC, SC-SM	*A-4, A-2-4			0	0-15	80-100	75-100	50-100
	17-30	*Loam, Gravelly silty clay loam, cobbly clay loam, silt loam	*CL, CL-ML, SC, SC-SM	*A-4, A-6			0	0-15	70-100	60-100	50-100
	30-50	*Clay loam, Gravelly clay loam, cobbly clay, gravelly silty clay loam	*CL, SC	*A-6, A-7-6			0-5	0-15	70-85	60-85	55-85
22B: Frederick-----	50-60	*Cobbly clay loam, Very gravelly silty clay loam, gravelly clay	*CL, CH, MH, SC, SM	*A-7, A-6			0-5	10-20	60-85	50-80	45-80
	0-9	*Silt loam	*CL, CL-ML	*A-4,			0	0	75-100	70-100	65-100
	9-16	*Silty clay loam, Clay loam, silty clay, clay	*CL, MH	*A-7, A-6			0	0	75-100	75-100	70-100
	16-41	*Clay, Silty clay	*MH, CL	*A-7,			0	0	75-100	75-100	60-100
	41-74	*Clay, Silty clay	*MH, CL	*A-7,			0	0	75-100	75-100	60-100
22C: Frederick-----	0-9	*Silt loam	*CL, CL-ML	*A-4,			0	0	75-100	70-100	65-100
	9-16	*Silty clay loam, Clay loam, silty clay, clay	*CL, MH	*A-7, A-6			0	0	75-100	75-100	70-100
	16-41	*Clay, Silty clay	*MH, CL	*A-7,			0	0	75-100	75-100	60-100
	41-74	*Clay, Silty clay	*MH, CL	*A-7,			0	0	75-100	75-100	60-100

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
22D: Frederick-----	0-9	*Silt loam	*CL, CL-ML	*A-4,		0	0	75-100	70-100	65-100
	9-16	*Silty clay loam, Clay loam, silty clay, clay	*CL, MH	*A-7, A-6		0	0	75-100	75-100	70-100
	16-41	*Clay, Silty clay	*MH, CL	*A-7,		0	0	75-100	75-100	60-100
	41-74	*Clay, Silty clay	*MH, CL	*A-7,		0	0	75-100	75-100	60-100
23E: Frederick-----	0-9	*Silt loam	*CL, CL-ML	*A-4,						
	9-16	*Silty clay loam, Clay loam, silty clay, clay	*CL, MH	*A-7, A-6		0	0	75-100	70-100	65-100
	16-41	*Clay, Silty clay	*MH, CL	*A-7,		0	0	75-100	75-100	60-100
	41-74	*Clay, Silty clay	*MH, CL	*A-7,		0	0	75-100	75-100	60-100
Caneyville-----	0-3	*Silt loam	*CL, CL-ML	*A-6, A-4		0	0-9	80-100	80-100	70-100
	3-6	*Silt loam, loam	*CL, CL-ML	*A-6, A-4		0	0-8	85-100	85-100	70-100
	6-12	*Silty clay loam, Silty clay, clay	*CL, CH	*A-7,		0	0-8	75-100	75-100	70-100
	12-25	*Clay, Silty clay	*CH, CL	*A-7,		0	0-8	75-100	75-100	60-100
	25-35	*Bedrock	---	---	---	---	---	---	---	---
24C: Frederick, very rocky-----	0-9	*Silt loam	*CL, CL-ML	*A-4,						
	9-16	*Silty clay loam, Clay loam, silty clay, clay	*CL, MH	*A-7, A-6		0	0	75-100	70-100	65-100
	16-41	*Clay, Silty clay	*MH, CL	*A-7,		0	0	75-100	75-100	60-100
	41-74	*Clay, Silty clay	*MH, CL	*A-7,		0	0	75-100	75-100	60-100

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
24C: Caneyville, very rocky-----	In				Pct	Pct				
	0-3	*Silt loam	*CL, CL-ML	*A-6, A-4	0	0-9		80-100	80-100	70-100
	3-6	*Silt loam, loam	*CL, CL-ML	*A-6, A-4	0	0-8		85-100	85-100	70-100
	6-12	*Silty clay loam, Silty clay, clay	*CL, CH	*A-7,	0	0-8		75-100	75-100	70-100
	12-25 25-35	*Clay, Silty clay *Bedrock	*CH, CL ---	*A-7, ---	0 ---	0-8 ---		75-100	75-100	60-100
24E: Frederick, very rocky-----										
	0-9	*Silt loam	*CL, CL-ML	*A-4,	0	0		75-100	70-100	65-100
	9-16	*Silty clay loam, Clay loam, silty clay, clay	*CL, MH	*A-7, A-6	0	0		75-100	75-100	70-100
	16-41	*Clay, Silty clay	*MH, CL	*A-7,	0	0		75-100	75-100	60-100
	41-74	*Clay, Silty clay	*MH, CL	*A-7,	0	0		75-100	75-100	60-100
Caneyville, very rocky-----	0-3	*Silt loam	*CL, CL-ML	*A-6, A-4	0	0-9		80-100	80-100	70-100
	3-6	*Silt loam, loam	*CL, CL-ML	*A-6, A-4	0	0-8		85-100	85-100	70-100
	6-12	*Silty clay loam, Silty clay, clay	*CL, CH	*A-7,	0	0-8		75-100	75-100	70-100
	12-25	*Clay, Silty clay	*CH, CL	*A-7,	0	0-8		75-100	75-100	60-100
	25-35	*Bedrock	---	---	---	---		---	---	---



Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	Pct	4	10	40
	<u>In</u>					<u>Pct</u>				
25C: Frederick-----	0-5	*Gravelly silt loam	*CL-ML, CL, GC-GM	*A-4, A-2	0	0-10	50-75	45-75	40-75	
	5-11	*Silt loam, loam, gravelly silt loam	*CL-ML, CL, GC-GM	*A-4, A-2	0	0-10	50-100	50-100	45-100	
	11-16	*Silty clay loam, Clay loam, silty clay, clay	*CL, MH	*A-7, A-6	0	0	75-100	75-100	75-100	
	16-23	*Clay, Silty clay	*MH, CL	*A-7,	0	0	75-100	75-100	55-100	
	23-62	*Clay, Silty clay	*MH, CL	*A-7,	0	0	75-100	75-100	55-100	
Watahala-----	0-4	*Gravelly silt loam	*GC-GM, CL, GM	*A-4, A-2	0	0-10	50-75	45-75	40-75	
	4-28	*Very gravelly loam, Gravelly silt loam, gravelly fine sandy loam	*GC-GM, CL, GM	*A-2, A-1, A-4	0	0-5	40-75	35-75	30-70	
	28-42	*Gravelly silty clay loam, Gravelly clay loam, very gravelly loam, very gravelly silt loam	*CL, GC-GM	*A-6, A-1	0	0-5	40-75	35-75	30-75	
	42-60	*Silty clay, Clay, gravelly silty clay	*MH, GC	*A-7, A-2	0	0-5	50-100	45-100	35-100	
25D: Frederick-----	0-5	*Gravelly silt loam	*CL-ML, CL, GC-GM	*A-4, A-2	0	0-10	50-75	45-75	40-75	
	5-11	*Silt loam, loam, gravelly silt loam	*CL-ML, CL, GC-GM	*A-4, A-2	0	0-10	50-100	50-100	45-100	
	11-16	*Silty clay loam, Clay loam, silty clay, clay	*CL, MH	*A-7, A-6	0	0	75-100	75-100	75-100	
	16-23	*Clay, Silty clay	*MH, CL	*A-7,	0	0	75-100	75-100	55-100	
	23-62	*Clay, Silty clay	*MH, CL	*A-7,	0	0	75-100	75-100	55-100	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	Pct	4	10	40	
25D: Watahala-----	In				Pct	Pct					
	0-4	*Gravelly silt loam	*GC-GM, CL, GM	*A-4, A-2	0	0-10	50-75	45-75	40-75		
	4-28	*Very gravelly loam, Gravelly silt loam, Gravelly fine sandy loam	*GC-GM, CL, GM	*A-2, A-1, A-4	0	0-5	40-75	35-75	30-70		
	28-42	*Gravelly silty clay loam, Gravelly clay loam, very gravelly loam, very gravelly silt loam	*CL, GC-GM	*A-6, A-1	0	0-5	40-75	35-75	30-75		
	42-60	*Silty clay, Clay, gravelly silty clay	*MH, GC	*A-7, A-2	0	0-5	50-100	45-100	35-100		
	0-5	*Gravelly silt loam	*CL-ML, CL, GC-GM	*A-4, A-2	0	0-10	50-75	45-75	40-75		
	5-11	*Silt loam, loam, gravelly silt loam	*CL-ML, CL, GC-GM	*A-4, A-2	0	0-10	50-100	50-100	45-100		
25E: Frederick-----	11-16	*Silty clay loam, Clay loam, silty clay, clay	*CL, MH	*A-7, A-6	0	0	75-100	75-100	75-100		
	16-23	*Clay, Silty clay	*MH, CL	*A-7,	0	0	75-100	75-100	55-100		
	23-62	*Clay, Silty clay	*MH, CL	*A-7,	0	0	75-100	75-100	55-100		

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	Pct	4	10	40
	<u>In</u>					<u>Pct</u>	<u>Pct</u>			
25E: Watahala-----	0-4	*Gravelly silt loam	*GC-GM, CL, GM	*A-4, A-2	0	0-10	50-75	45-75	40-75	
	4-28	*Very gravelly loam, Gravelly silt loam, gravelly fine sandy loam	*GC-GM, CL, GM	*A-2, A-1, A-4	0	0-5	40-75	35-75	30-70	
	28-42	*Gravelly silty clay loam, Gravelly clay loam, very gravelly loam, very gravelly silt loam	*CL, GC-GM	*A-6, A-1	0	0-5	40-75	35-75	30-75	
	42-60	*Silty clay, Clay, gravelly silty clay	*MH, GC	*A-7, A-2	0	0-5	50-100	45-100	35-100	
26A: Gladehill-----	0-5	*Fine sandy loam	*SM, SC-SM	*A-4, A-2	0	0-5	75-100	75-100	65-95	
	5-42	*Fine sandy loam, loam, sandy loam	*SM, SC-SM	*A-4, A-2	0	0-5	80-100	75-100	65-95	
	42-72	*Fine sandy loam, loam, sandy loam, gravelly sandy loam	*SM, SC-SM, GM	*A-4, A-1	0	0-10	55-100	55-100	45-95	

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
27B: Groseclose-----	In					<u>Pct</u>	<u>Pct</u>			
	0-3	*Silt loam	*CL-ML, GM, CL	*A-4,	0	0-10	65-100	65-100	50-100	
	3-8	*Silt loam, loam, gravelly silt loam, channery silt loam	*CL, GM	*A-4, A-1	0	0-15	40-100	35-100	30-95	
	8-15	*Silty clay loam, Clay, silty clay, clay loam, gravelly clay, channery silty clay	*CL, GC, MH	*A-6, A-2, A-7	0	0-15	40-100	40-100	40-100	
	15-55	*Clay, Silty clay, silty clay loam, clay loam, gravelly clay, channery silty clay	*MH, GC	*A-7, A-2	0	0-15	40-100	40-100	30-100	
	55-65	*Silty clay, Silt loam, silty clay loam, clay loam, clay, channery silt loam, channery silty clay loam	*ML, MH, GC-GM	*A-7, A-2	0	0-15	50-100	50-100	35-100	

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	60
	In				Pct	Pct				
27C:										
Groseclose-----	0-3	*Silt loam	*CL-ML, GM, CL	*A-4,	0	0-10	65-100	65-100	50-100	100
	3-8	*Silt loam, loam, gravelly silt loam, channery silt loam	*CL, GM	*A-4, A-1	0	0-15	40-100	35-100	30-95	100
	8-15	*Silty clay loam, Clay, silty clay, clay loam, gravelly clay, channery silty clay	*CL, GC, MH	*A-6, A-2, A-7	0	0-15	40-100	40-100	40-100	100
	15-55	*Clay, Silty clay, silty clay loam, clay loam, gravelly clay, channery silty clay	*MH, GC	*A-7, A-2	0	0-15	40-100	40-100	30-100	100
	55-65	*Silty clay, Silt loam, silty clay loam, clay loam, clay, channery silt loam, channery silty clay loam	*ML, MH, GC-GM	*A-7, A-2	0	0-15	50-100	50-100	35-100	100

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
11C:									
27D:									
Groseclose-----	0-3	*Silt loam	*CL-ML, GM, CL	*A-4,	0	0-10	65-100	65-100	50-100
	3-8	*Silt loam, Loam, gravelly silt loam, channery silt loam	*CL, GM	*A-4, A-1	0	0-15	40-100	35-100	30-95
	8-15	*Silty clay loam, Clay, silty clay, clay loam, gravelly clay, channery silty clay	*CL, GC, MH	*A-6, A-2, A-7	0	0-15	40-100	40-100	40-100
	15-55	*Clay, Silty clay, silty clay loam, clay loam, gravelly clay, channery silty clay	*MH, GC	*A-7, A-2	0	0-15	40-100	40-100	30-100
	55-65	*Silty clay, Silt loam, silty clay loam, clay loam, clay, channery silt loam, channery silty clay loam	*ML, MH, GC-GM	*A-7, A-2	0	0-15	50-100	50-100	35-100

Table 15.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
28E: Groseclose-----	0-3	*Silt loam	*CL-ML, GM, CL	*A-4,	0	0-10	65-100	65-100	50-100
	3-8	*Silt loam, loam, gravelly silt loam, channery silt loam	*CL, GM	*A-4, A-1	0	0-15	40-100	35-100	30-95
	8-15	*Silty clay loam, Clay, silty clay, clay loam, gravelly clay, channery silty clay	*CL, GC, MH	*A-6, A-2, A-7	0	0-15	40-100	40-100	40-100
	15-55	*Clay, Silty clay, silty clay loam, clay loam, gravelly clay, channery silty clay	*MH, GC	*A-7, A-2	0	0-15	40-100	40-100	30-100
	55-65	*Silty clay, Silt loam, silty clay loam, clay loam, clay, channery silt loam, channery silty clay loam	*ML, MH, GC-GM	*A-7, A-2	0	0-15	50-100	50-100	35-100
	0-5	*Silt loam	*CL, ML	*A-4, A-6	0	0-13	85-100	85-100	70-95
	5-21	*Clay, Silty clay, silty clay loam, channery silty clay	*CH, GC	*A-7,	0	0-23	65-100	65-100	50-100
	21-33	*Channery silty clay loam, Clay, silty clay, silty clay loam	*CL, CH	*A-7,	0	0-23	65-100	65-100	60-100
	33-43	*Bedrock	---	---	---	---	---	---	---
Needmore-----	0-5	*Silt loam	*CL, ML	*A-4, A-6	0	0-13	85-100	85-100	70-95
	5-21	*Clay, Silty clay, silty clay loam, channery silty clay	*CH, GC	*A-7,	0	0-23	65-100	65-100	50-100
	21-33	*Channery silty clay loam, Clay, silty clay, silty clay loam	*CL, CH	*A-7,	0	0-23	65-100	65-100	60-100
	33-43	*Bedrock	---	---	---	---	---	---	---

Table 15.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
29C:									
Groseclose-----	0-3	*Silt loam	*CL-ML, GM, CL	*A-4,	0	0-10	65-100	65-100	50-100
	3-8	*Silt loam, loam, gravelly silt loam, channery silt loam	*CL, GM	*A-4, A-1	0	0-15	40-100	35-100	30-95
	8-15	*Silty clay loam, Clay, silty clay, clay loam, gravelly clay, channery silty clay	*CL, GC, MH	*A-6, A-2, A-7	0	0-15	40-100	40-100	40-100
	15-55	*Clay, Silty clay, silty clay loam, clay loam, gravelly clay, channery silty clay	*MH, GC	*A-7, A-2	0	0-15	40-100	40-100	30-100
	55-65	*Silty clay, Silt loam, silty clay loam, clay loam, clay, channery silt loam, channery silty clay loam	*ML, MH, GC-GM	*A-7, A-2	0	0-15	50-100	50-100	35-100
Needmore-----	0-5	*Silt loam	*CL, ML	*A-4, A-6	0	0-13	85-100	85-100	70-95
	5-21	*Clay, Silty clay, silty clay loam, channery silty clay	*CH, GC	*A-7,	0	0-23	65-100	65-100	50-100
	21-33	*Channery silty clay loam, Clay, silty clay, silty clay loam	*CL, CH	*A-7,	0	0-23	65-100	65-100	60-100
	33-43	*Bedrock	---	---	---	---	---	---	---
Urban land.									



Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
30A: Holly-----	0-4	*Silt loam	*CL-ML, ML, CL	*A-4,	0	0	85-100	85-100	70-100	
	4-42	*Silt loam, loam, sandy loam, silty clay loam	*CL, CL-ML	*A-4, A-6	0	0	75-100	75-100	65-100	
	42-65	*Silt loam, loam, sandy loam, silty clay loam	*CL-ML, GM, CL	*A-4, A-7	0	0-7	65-100	65-100	50-100	
	0-9	*Silt loam	*CL-ML, ML, CL	*A-4,	0	0	90-100	90-100	75-100	
	9-40	*Silt loam, loam, silty clay loam, sandy loam	*CL-ML, CL	*A-4, A-6	0	0	75-100	75-100	65-100	
Orrville-----	40-50	*Silt loam, loam, gravelly loam, sandy loam	*CL, GM	*A-4,	0	0-7	65-100	60-100	50-100	
	50-65	*Very gravelly loam, Gravelly loam, silt loam, sandy loam	*GC-GM, GM, CL	*A-2, A-4, A-1	0	0-13	45-100	45-100	35-100	
	0-13	*Loam	*CL, CL-ML	*A-4, A-6	0	0-10	85-100	80-100	70-95	
	13-52	*Loam, Clay loam, sandy clay loam	*CL, CL-ML, SC, SC-SM	*A-6, A-2	0	0-10	85-100	80-100	65-100	
	52-65	*Clay loam, loam, gravelly loam, very cobbly sandy clay loam	*CL, CL-ML, SC, GC-GM	*A-6, A-2	0	0-35	55-100	40-100	35-100	
31A: Ingledove-----										

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	inches	inches	Pct	4	10	40
	In				Pct	Pct				
32A: Irongate-----	0-21	*Fine sandy loam	*SC-SM, SM, CL-ML	*A-4, A-2	0	0-10	85-100	80-100	55-85	
	21-42	*Sandy loam, Loam, fine sandy loam	*SC-SM, SM, CL-ML	*A-2, A-4, A-1	0	0-10	85-100	80-100	50-95	
	42-55	*Sandy loam, Loam, fine sandy loam, gravelly sandy loam	*SC-SM, SM, CL-ML	*A-2, A-1, A-4	0	0-10	65-100	50-100	30-95	
	55-62	*Gravelly sandy loam, Loam, fine sandy loam, sandy loam	*SM, CL-ML	*A-1, A-4	0	0-10	65-100	50-100	30-95	
33C: Litz-----	0-6	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	5-20	60-85	60-85	50-80	
	6-27	*Very channery silt loam, Very channery silty clay loam, extremely channery loam, extremely channery clay loam	*GC, CL, GP-GM	*A-2, A-1, A-6	0-1	20-35	20-60	15-60	15-60	
	27-32	*Extremely channery silt loam, Very channery silty clay loam, extremely channery loam, extremely channery clay loam	*GC, CL, GP-GM	*A-2, A-1, A-6	0-3	15-40	15-60	10-60	5-60	
	32-38	*Bedrock	---	---	---	---	---	---	---	---
	38-48	*Bedrock	---	---	---	---	---	---	---	---

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
33C: Chiswell-----	0-10	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	10-20	60-85	60-85	150-80	
	10-17	*Extremely channery silt loam, Very channery loam	*GC, GP-GM	*A-2, A-1, A-4	0-1	15-35	20-60	15-60	115-60	
	17-27	*Bedrock	---	---	---	---	---	---	---	
	0-3	*Silt loam	*CL-ML, GM, CL	*A-4,	0	0-10	65-100	65-100	150-100	
Groseclose-----	3-8	*Silt loam, loam, gravelly silt loam, channery silt loam	*CL, GM	*A-4, A-1	0	0-15	40-100	35-100	130-95	
	8-15	*Silty clay loam, Clay, silty clay, clay loam, gravelly clay, channery silty clay	*CL, GC, MH	*A-6, A-2, A-7	0	0-15	40-100	40-100	140-100	
	15-55	*Clay, Silty clay, silty clay loam, clay loam, gravelly clay, channery silty clay	*MH, GC	*A-7, A-2	0	0-15	40-100	40-100	130-100	
	55-65	*Silty clay, Silt loam, silty clay loam, clay loam, clay, channery silt loam, channery silty clay loam	*ML, MH, GC-GM	*A-7, A-2	0	0-15	50-100	50-100	135-100	

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
33E: Litz-----	0-6	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	5-20	60-85	60-85	150-80	
	6-27	*Very channery silt loam, Very channery silty clay loam, extremely channery loam, extremely channery clay loam	*GC, CL, GP-GM	*A-2, A-1, A-6	0-1	20-35	20-60	15-60	15-60	
	27-32	*Extremely channery silt loam, Very channery silty clay loam, extremely channery loam, extremely channery clay loam	*GC, CL, GP-GM	*A-2, A-1, A-6	0-3	15-40	15-60	10-60	5-60	
	32-38	*Bedrock	---	---	---	---	---	---	---	
	38-48	*Bedrock	---	---	---	---	---	---	---	
	0-10	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	10-20	60-85	60-85	150-80	
	10-17	*Extremely channery silt loam, Very channery loam	*GC, GP-GM	*A-2, A-1, A-4	0-1	15-35	20-60	15-60	15-60	
	17-27	*Bedrock	---	---	---	---	---	---	---	
Chiswell-----										

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	60
	In				Pct	Pct				
33E:										
Groseclose-----	0-3	*Silt loam	*CL-ML, GM, CL	*A-4,	0	0-10	65-100	65-100	50-100	100
	3-8	*Silt loam, loam, gravelly silt loam, channery silt loam	*CL, GM	*A-4, A-1	0	0-15	40-100	35-100	30-95	100
	8-15	*Silty clay loam, Clay, silty clay, clay loam, gravelly clay, channery silty clay	*CL, GC, MH	*A-6, A-2, A-7	0	0-15	40-100	40-100	40-100	100
	15-55	*Clay, Silty clay, silty clay loam, clay loam, gravelly clay, channery silty clay	*MH, GC	*A-7, A-2	0	0-15	40-100	40-100	30-100	100
	55-65	*Silty clay, Silt loam, silty clay loam, clay loam, clay, channery silt loam, channery silty clay loam	*ML, MH, GC-GM	*A-7, A-2	0	0-15	50-100	50-100	35-100	100

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
33F: Litz-----	0-6	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	5-20	60-85	60-85	150-80	
	6-27	*Very channery silt loam, Very channery silty clay loam, extremely channery loam, extremely channery clay loam	*GC, CL, GP-GM	*A-2, A-1, A-6	0-1	20-35	20-60	15-60	15-60	
	27-32	*Extremely channery silt loam, Very channery silty clay loam, extremely channery loam, extremely channery clay loam	*GC, CL, GP-GM	*A-2, A-1, A-6	0-3	15-40	15-60	10-60	5-60	
	32-38	*Bedrock	---	---	---	---	---	---	---	
	38-48	*Bedrock	---	---	---	---	---	---	---	
	0-10	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	10-20	60-85	60-85	150-80	
	10-17	*Extremely channery silt loam, Very channery loam	*GC, GP-GM	*A-2, A-1, A-4	0-1	15-35	20-60	15-60	15-60	
	17-27	*Bedrock	---	---	---	---	---	---	---	
Chiswell-----										

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
33F:										
Groseclose-----	0-3	*Silt loam	*CL-ML, GM, CL	*A-4,	0	0-10	65-100	65-100	50-100	
	3-8	*Silt loam, loam, gravelly silt loam, channery silt loam	*CL, GM	*A-4, A-1	0	0-15	40-100	35-100	30-95	
	8-15	*Silty clay loam, Clay, silty clay, clay loam, gravelly clay, channery silty clay	*CL, GC, MH	*A-6, A-2, A-7	0	0-15	40-100	40-100	40-100	
	15-55	*Clay, Silty clay, silty clay loam, clay loam, gravelly clay, channery silty clay	*MH, GC	*A-7, A-2	0	0-15	40-100	40-100	30-100	
	55-65	*Silty clay, Silt loam, silty clay loam, clay loam, clay, channery silt loam, channery silty clay loam	*ML, MH, GC-GM	*A-7, A-2	0	0-15	50-100	50-100	35-100	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
34C: Litz, very stony-----	0-6	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	5-20	60-85	60-85	50-80	
	6-27	*Very channery silt loam, Very channery silty clay loam, extremely channery loam, extremely channery clay loam	*GC, CL, GP-GM	*A-2, A-1, A-6	0-1	20-35	20-60	15-60	15-60	
	27-32	*Extremely channery silt loam, Very channery silty clay loam, extremely channery silty clay	*GC, CL, GP-GM	*A-2, A-1, A-6	0-3	15-40	15-60	10-60	5-60	
	32-38	*Bedrock	---	---	---	---	---	---	---	
	38-48	*Bedrock	---	---	---	---	---	---	---	
Needmore, very stony-----	0-5	*Silt loam	*CL, ML	*A-4, A-6	0	0-13	85-100	85-100	70-95	
	5-21	*Clay, Silty clay, silty clay loam, channery silty clay	*CH, GC	*A-7,	0	0-23	65-100	65-100	50-100	
	21-33	*Channery silty clay loam, Clay, silty clay, silty clay loam	*CL, CH	*A-7,	0	0-23	65-100	65-100	60-100	
	33-43	*Bedrock	---	---	---	---	---	---	---	



Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
34E: Litz, very stony-----	0-6	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	5-20	60-85	60-85	50-80	
	6-27	*Very channery silt loam, Very channery silty clay loam, extremely channery loam, extremely channery clay loam	*GC, CL, GP-GM	*A-2, A-1, A-6	0-1	20-35	20-60	15-60	15-60	
	27-32	*Extremely channery silt loam, Very channery silty clay loam, extremely channery silty clay	*GC, CL, GP-GM	*A-2, A-1, A-6	0-3	15-40	15-60	10-60	5-60	
	32-38	*Bedrock	---	---	---	---	---	---	---	
	38-48	*Bedrock	---	---	---	---	---	---	---	
Needmore, very stony-----	0-5	*Silt loam	*CL, ML	*A-4, A-6	0	0-13	85-100	85-100	70-95	
	5-21	*Clay, Silty clay, silty clay loam, channery silty clay	*CH, GC	*A-7,	0	0-23	65-100	65-100	50-100	
	21-33	*Channery silty clay loam, Clay, silty clay, silty clay loam	*CL, CH	*A-7,	0	0-23	65-100	65-100	60-100	
	33-43	*Bedrock	---	---	---	---	---	---	---	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
34F: Litz, very stony-----	0-6	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	5-20	60-85	60-85	50-80	
	6-27	*Very channery silt loam, Very channery silty clay loam, extremely channery loam, extremely channery clay loam	*GC, CL, GP-GM	*A-2, A-1, A-6	0-1	20-35	20-60	15-60	15-60	
	27-32	*Extremely channery silt loam, Very channery silty clay loam, extremely channery silty clay	*GC, CL, GP-GM	*A-2, A-1, A-6	0-3	15-40	15-60	10-60	5-60	
	32-38	*Bedrock	---	---	---	---	---	---	---	
	38-48	*Bedrock	---	---	---	---	---	---	---	
Needmore, very stony-----	0-5	*Silt loam	*CL, ML	*A-4, A-6	0	0-13	85-100	85-100	70-95	
	5-21	*Clay, Silty clay, silty clay loam, channery silty clay	*CH, GC	*A-7,	0	0-23	65-100	65-100	50-100	
	21-33	*Channery silty clay loam, Clay, silty clay, silty clay loam	*CL, CH	*A-7,	0	0-23	65-100	65-100	60-100	
	33-43	*Bedrock	---	---	---	---	---	---	---	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
35C: Lodi-----	0-7	*Gravelly fine sandy loam	*SM, SC-SM, GM	*A-2, A-1	0	0	55-80	50-80	45-80	
	7-19	*Fine sandy loam, Gravelly loam	*SM, SC	*A-2, A-4	0	0	65-100	65-100	55-100	
	19-31	*Clay, Clay loam, gravelly clay, sandy clay loam	*MH, GC	*A-7, A-2, A-6	0	0-10	55-100	55-100	40-100	
	31-49	*Gravelly clay loam, Clay, gravelly clay, sandy clay loam	*ML, MH, GC	*A-7, A-6	0	0-10	55-100	55-100	45-100	
	49-67	*Gravelly loam, Fine sandy loam, gravelly sandy loam, clay loam	*CL-ML, GM, CL	*A-4, A-2, A-7	0	0-10	55-100	55-100	45-100	
McClung-----	0-3	*Sandy loam	*SM, SC-SM	*A-2, A-4, A-1	0	0	85-100	75-100	45-70	
	3-11	*Sandy loam, Fine sandy loam, gravelly loam	*SC-SM, SM, CL	*A-2, A-4, A-1	0	0	65-100	50-100	30-95	
	11-19	*Sandy loam, Loam, gravelly loam	*SC-SM, SM, CL	*A-2, A-4, A-1	0	0	65-100	50-100	30-95	
	19-65	*Sandy clay loam, Sandy clay, gravelly clay loam	*SC, CL, SC-SM	*A-4, A-1, A-7	0	0	65-100	50-100	50-100	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
35C: Lily-----	0-3	*Sandy loam	*SC-SM, SM, SC	*A-2, A-1	0	0-2	80-95	75-90	45-65	
	3-17	*Loam, Gravelly sandy loam, gravelly fine sandy loam	*CL-ML, CL, SM	*A-4, A-1	0	0	65-90	55-90	30-85	
	17-32	*Clay loam, Sandy clay loam, gravelly loam, gravelly clay loam	*CL, SC-SM	*A-6, A-2	0	0	60-90	50-90	140-90	
	32-42	*Bedrock	---	---	---	---	---	---	---	
35E: Lodi-----	0-7	*Gravelly fine sandy loam	*SM, SC-SM, GM	*A-2, A-1	0	0	55-80	50-80	145-80	
	7-19	*Fine sandy loam, Gravelly loam	*SM, SC	*A-2, A-4	0	0	65-100	65-100	55-100	
	19-31	*Clay, Clay loam, gravelly clay, sandy clay loam	*MH, GC	*A-7, A-2, A-6	0	0-10	55-100	55-100	140-100	
	31-49	*Gravelly clay loam, Clay, gravelly clay, sandy clay loam	*ML, MH, GC	*A-7, A-6	0	0-10	55-100	55-100	145-100	
	49-67	*Gravelly loam, Fine sandy loam, gravelly sandy loam, clay loam	*CL-ML, GM, CL	*A-4, A-2, A-7	0	0-10	55-100	55-100	145-100	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
35E: McClung-----	0-3	*Sandy loam	*SM, SC-SM	*A-2, A-4, A-1	0	0	85-100	75-100	45-70	
	3-11	*Sandy loam, Fine sandy loam, gravelly loam	*SC-SM, SM, CL	*A-2, A-4, A-1	0	0	65-100	50-100	30-95	
	11-19	*Sandy loam, Loam, gravelly loam	*SC-SM, SM, CL	*A-2, A-4, A-1	0	0	65-100	50-100	30-95	
	19-65	*Sandy clay loam, Sandy clay, gravelly clay loam	*SC, CL, SC-SM	*A-4, A-1, A-7	0	0	65-100	50-100	50-100	
Lily-----	0-3	*Sandy loam	*SC-SM, SM, SC	*A-2, A-1	0	0-2	80-95	75-90	45-65	
	3-17	*Loam, Gravelly sandy loam, gravelly fine sandy loam	*CL-ML, CL, SM	*A-4, A-1	0	0	65-90	55-90	30-85	
	17-32	*Clay loam, Sandy clay loam, gravelly loam, gravelly clay loam	*CL, SC-SM	*A-6, A-2	0	0	60-90	50-90	40-90	
	32-42	*Bedrock	---	---	---	---	---	---	---	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	inches	inches		4	10	40
36C: Lostcove, extremely stony-----	In				Pct	Pct				
	0-3	*Very cobbly sandy loam	*GM, GC-GM, GW-GM	*A-1, A-2	0-10	30-60	35-70	30-70	120-55	
	3-13	*Very cobbly sandy loam, Cobbly fine sandy loam, gravelly loam	*GC-GM, SC-SM, GW-GM	*A-1, A-2	0-10	10-60	35-80	30-80	120-70	
	13-65	*Extremely cobbly clay loam, Very gravelly loam, extremely stony clay loam, very stony sandy clay loam	*GC, CL, GP-GC	*A-6, A-1	10-25	20-50	20-80	20-80	15-75	
37E: Lostcove, very stony-----	0-3	*Very cobbly sandy loam	*GM, GC-GM, GW-GM	*A-1, A-2	0-10	30-60	35-70	30-70	120-55	
	3-13	*Very cobbly sandy loam, Cobbly fine sandy loam, gravelly loam	*GC-GM, SC-SM, GW-GM	*A-1, A-2	0-10	10-60	35-80	30-80	120-70	
	13-65	*Extremely cobbly clay loam, Very gravelly loam, extremely stony clay loam, very stony sandy clay loam	*GC, CL, GP-GC	*A-6, A-1	10-25	20-50	20-80	20-80	15-75	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
37F: Lostcove, very stony-----	In				Pct	Pct				
	0-3	*Very cobbly sandy loam	*GM, GC-GM, GW-GM	*A-1, A-2	0-10	30-60	35-70	30-70	20-55	
	3-13	*Very cobbly sandy loam, Cobbly fine sandy loam, gravelly loam	*GC-GM, SC-SM, GW-GM	*A-1, A-2	0-10	10-60	35-80	30-80	20-70	
	13-65	*Extremely cobbly clay loam, Very gravelly loam, extremely stony clay loam, very stony sandy clay loam	*GC, CL, GP-GC	*A-6, A-1	10-25	20-50	20-80	20-80	15-75	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
38E: Marbleyard, extremely stony-----	In				Pct	Pct				
	0-4	*Very cobbly sandy loam	*SC-SM, GP-GM	*A-2, A-1	5-25	20-60	30-70	30-65	20-55	
	4-9	*Very cobbly sandy loam, Very gravelly loam, very stony fine sandy loam	*SC-SM, GC-GM, GP-GM	*A-1, A-2	0-25	20-60	30-65	30-65	20-50	
	9-23	*Extremely cobbly sandy loam, Extremely cobbly fine sandy loam, very cobbly sandy loam, very stony sandy loam, very gravelly loam	*GM, GP-GM, GC-GM	*A-1, A-2	5-30	20-70	20-70	15-65	15-55	
	23-36	*Extremely gravelly sandy loam, Extremely cobbly loamy sand, very cobbly sandy loam, very stony loam	*GP-GC, GW-GM	*A-1, A-2	0-20	20-65	10-45	10-45	5-35	
Rock outcrop.	36-46	*Bedrock	---	---	---	---	---	---	---	



Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
39F: Marbleyard, extremely stony-----	In				Pct	Pct			
	0-4	*Very cobbly sandy loam	*SC-SM, GP-GM	*A-2, A-1	5-25	20-60	30-70	30-65	20-55
	4-9	*Very cobbly sandy loam, Very gravelly loam, very stony fine sandy loam	*SC-SM, GC-GM, GP-GM	*A-1, A-2	0-25	20-60	30-65	30-65	20-50
	9-23	*Extremely cobbly sandy loam, Extremely cobbly fine sandy loam, very cobbly sandy loam, very stony sandy loam, very gravelly loam	*GM, GP-GM, GC-GM	*A-1, A-2	5-30	20-70	20-70	15-65	15-55
	23-36	*Extremely gravelly sandy loam, Extremely cobbly loamy sand, very cobbly sandy loam, very stony loam	*GP-GC, GW-GM	*A-1, A-2	0-20	20-65	10-45	10-45	5-35
	36-46	*Bedrock	---	---	---	---	---	---	---

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
39F: Sherando, extremely stony-----	In				Pct	Pct			
	0-7	*Gravelly sandy loam	*GM, SC-SM, GM	*A-1, A-2	0	0-20	50-75	50-75	35-65
	7-26	*Very gravelly sandy loam, Very cobbly sandy loam, extremely gravelly fine sandy loam	*GC-GM, GP-GM	*A-1, A-2	0	0-40	20-55	15-50	10-40
	26-43	*Extremely gravelly sandy loam, Very cobbly sandy loam, extremely gravelly fine sandy loam	*GC-GM, GP-GM	*A-1, A-2	0	0-40	20-55	15-50	10-40
	43-62	*Extremely cobbly loamy sand, Very cobbly loamy sand, extremely gravelly sandy loam	*GP-GM, GM	*A-1, A-2	0	20-65	20-65	15-65	10-55
Rock outcrop.									

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
39G: Marbleyard, extremely stony-----	In				Pct	Pct			
	0-4	*Very cobbly sandy loam	*SC-SM, GP-GM	*A-2, A-1	5-25	20-60	30-70	30-65	20-55
	4-9	*Very cobbly sandy loam, Very gravelly loam, very stony fine sandy loam	*SC-SM, GC-GM, GP-GM	*A-1, A-2	0-25	20-60	30-65	30-65	20-50
	9-23	*Extremely cobbly sandy loam, Extremely cobbly fine sandy loam, very cobbly sandy loam, very stony sandy loam, very gravelly loam	*GM, GP-GM, GC-GM	*A-1, A-2	5-30	20-70	20-70	15-65	15-55
	23-36	*Extremely gravelly sandy loam, Extremely cobbly loamy sand, very cobbly sandy loam, very stony loam	*GP-GC, GW-GM	*A-1, A-2	0-20	20-65	10-45	10-45	5-35
	36-46	*Bedrock	---	---	---	---	---	---	---

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
39G: Sherando, extremely stony-----	In				Pct	Pct			
	0-7	*Gravelly sandy loam	*GM, SC-SM, GM	*A-1, A-2	0	0-20	50-75	50-75	35-65
	7-26	*Very gravelly sandy loam, Very cobbly sandy loam, extremely gravelly fine sandy loam	*GC-GM, GP-GM	*A-1, A-2	0	0-40	20-55	15-50	10-40
	26-43	*Extremely gravelly sandy loam, Very cobbly sandy loam, extremely gravelly fine sandy loam	*GC-GM, GP-GM	*A-1, A-2	0	0-40	20-55	15-50	10-40
	43-62	*Extremely cobbly loamy sand, Very cobbly loamy sand, extremely gravelly sandy loam	*GP-GM, GM	*A-1, A-2	0	20-65	20-65	15-65	10-55
40A: Maurertown-----	0-6	*Silty clay loam	*Cl,	*A-7, A-6	0	0	100	100	193-100
	6-65	*Silty clay, Silty clay loam, clay	*CH, CL	*A-7,	0	0	100	100	187-100

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
40A: Toms-----	0-7	*Silt loam	*CL, CL-ML	*A-4, A-6	0	0	90-100	90-100	85-100
	7-24	*Clay, Silty clay loam, silty clay	*CH, CL	*A-7,	0	0	90-100	90-100	80-100
	24-36	*Clay, Silty clay loam, silty clay, gravelly	*CH, GC	*A-7,	0	0-6	55-100	50-100	45-100
	36-53	*Silty clay loam silty clay, gravelly	*CL, GC, CH	*A-7,	0	0-6	55-100	50-100	45-100
	53-65	*Silty clay loam, Silty clay, cobbly clay, gravelly silty clay loam	*CL, CH, GC	*A-7,	0	0-13	55-100	50-100	45-100
41C: McCamy, very stony-----	0-4	*Loam	*CL-ML, CL, SM	*A-4,	0	0-10	75-100	75-100	60-100
	4-7	*Loam, Fine sandy loam, gravelly sandy loam, gravelly loam	*CL-ML, CL, GM	*A-4, A-1	0	0-15	50-100	50-100	35-95
	7-27	*Gravelly sandy clay loam, Clay loam, cobbly loam, very gravelly loam	*SC, CL, GC-GM	*A-2, A-1, A-6	0	0-20	35-100	35-100	25-95
	27-31	*Very cobbly sandy clay loam, Clay loam, cobbly loam, very gravelly loam	*GC, CL, GC-GM	*A-2, A-1, A-6	0	0-45	35-100	35-100	25-95
	31-41	*Bedrock	---	---	---	---	---	---	---

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
42F: McClung, very stony-----	In				Pct	Pct				
	0-3	*Sandy loam	*SM, SC-SM	*A-2, A-4, A-1	0	0	85-100	75-100	45-70	
	3-11	*Sandy loam, Fine sandy loam, gravelly loam	*SC-SM, SM, CL	*A-2, A-4, A-1	0	0	65-100	50-100	30-95	
	11-19	*Sandy loam, Loam, gravelly loam	*SC-SM, SM, CL	*A-2, A-4, A-1	0	0	65-100	50-100	30-95	
	19-65	*Sandy clay loam, Sandy clay, gravelly clay loam	*SC, CL, SC-SM	*A-4, A-1, A-7	0	0	65-100	50-100	50-100	
Caneyville, very stony-----	0-3	*Silt loam	*CL, CL-ML	*A-6, A-4	0	0-9	80-100	80-100	70-100	
	3-6	*Silt loam, Loam	*CL, CL-ML	*A-6, A-4	0	0-8	85-100	85-100	70-100	
	6-12	*Silty clay loam, Silty clay, clay	*CL, CH	*A-7,	0	0-8	75-100	75-100	70-100	
	12-25	*Clay, Silty clay	*CH, CL	*A-7,	0	0-8	75-100	75-100	60-100	
	25-35	*Bedrock	---	---	---	---	---	---	---	

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
42F: Dekalb, very stony-----	In				Pct	Pct				
	0-2	*Channery fine sandy loam	*SC-SM, SM	*A-4, A-2	0	10-25	70-90	70-90	60-85	
	2-12	*Channery fine sandy loam, Very channery sandy loam, very channery loam, flaggy sandy loam	*SC-SM, GM	*A-2, A-1, A-4	0	10-50	45-90	45-90	30-70	
	12-22	*Very channery sandy loam, Very channery fine sandy loam, very channery loam, very flaggy sandy loam	*GC-GM, SC-SM, GM	*A-1, A-2	0	20-65	45-70	45-70	30-60	
	22-32	*Extremely flaggy loamy sand, Very channery sandy loam, extremely channery sandy loam	*GM, GC-GM, GP-GM	*A-1, A-2	0	20-80	25-70	20-70	15-65	
	32-42	*Bedrock	---	---	---	---	---	---	---	
	0-5	*Silt loam	*CL, ML	*A-4, A-6	0	0-13	85-100	85-100	70-95	
	5-21	*Clay, Silty clay, silty clay loam, channery silty clay	*CH, GC	*A-7,	0	0-23	65-100	65-100	50-100	
	21-33	*Channery silty clay loam, Clay, silty clay, silty clay loam	*CL, CH	*A-7,	0	0-23	65-100	65-100	60-100	
	33-43	*Bedrock	---	---	---	---	---	---	---	
43C: Needmore-----										

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	60
	In				Pct	Pct				
43C: Opequon-----	0-2	*Silty clay loam	*CL, ML	*A-7, A-6	0	0-4	75-100	75-100	65-100	
	2-14	*Clay, Silty clay loam, gravelly clay, channery silty clay	*CH, GC	*A-7, A-2	0	0-7	55-100	55-100	35-100	
	14-24	*Bedrock	---	---	---	---	---	---	---	
43E: Needmore-----	0-5	*Silt loam	*CL, ML	*A-4, A-6	0	0-13	85-100	85-100	70-95	
	5-21	*Clay, Silty clay, silty clay loam, channery silty clay	*CH, GC	*A-7,	0	0-23	65-100	65-100	50-100	
	21-33	*Channery silty clay loam, Clay, silty clay, silty clay loam	*CL, CH	*A-7,	0	0-23	65-100	65-100	60-100	
	33-43	*Bedrock	---	---	---	---	---	---	---	
Opequon-----	0-2	*Silty clay loam	*CL, ML	*A-7, A-6	0	0-4	75-100	75-100	65-100	
	2-14	*Clay, Silty clay loam, gravelly clay, channery silty clay	*CH, GC	*A-7, A-2	0	0-7	55-100	55-100	35-100	
	14-24	*Bedrock	---	---	---	---	---	---	---	
43F: Needmore-----	0-5	*Silt loam	*CL, ML	*A-4, A-6	0	0-13	85-100	85-100	70-95	
	5-21	*Clay, Silty clay, silty clay loam, channery silty clay	*CH, GC	*A-7,	0	0-23	65-100	65-100	50-100	
	21-33	*Channery silty clay loam, Clay, silty clay, silty clay loam	*CL, CH	*A-7,	0	0-23	65-100	65-100	60-100	
	33-43	*Bedrock	---	---	---	---	---	---	---	



Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
43F: Opequon-----	0-2	*Silty clay loam	*CL,	*A-7, A-6	0	0-4	75-100	75-100	65-100	
	2-14	*Clay, Silty clay loam, gravelly clay, channery silty clay	*CH, GC	*A-7, A-2	0	0-7	55-100	55-100	35-100	
	14-24	*Bedrock	---	---	---	---	---	---	---	
44E: Needmore-----	0-5	*Silt loam	*CL, ML	*A-4, A-6	0	0-13	85-100	85-100	70-95	
	5-21	*Clay, Silty clay, silty clay loam, channery silty clay	*CH, GC	*A-7,	0	0-23	65-100	65-100	50-100	
	21-33	*Channery silty clay loam, Clay, silty clay, silty clay loam	*CL, CH	*A-7,	0	0-23	65-100	65-100	60-100	
	33-43	*Bedrock	---	---	---	---	---	---	---	
Urban land.										
45B: Nicelytown-----	0-1	*Loam	*CL-ML, CL, SM	*A-4,	0	0-5	80-100	80-100	60-95	
	1-14	*Loam, Silt loam, fine sandy loam	*CL-ML, CL, SM	*A-4,	0	0-5	80-100	80-100	60-95	
	14-22	*Loam, Gravelly silt loam, clay loam, silty clay loam	*CL, GC-GM	*A-4, A-2, A-6	0	0-15	60-100	55-100	45-95	
	22-49	*Clay loam, Very gravelly silt loam, loam, silty clay loam	*CL, GC-GM	*A-6, A-1	0	0-10	45-100	40-100	30-95	
49-65	*Clay loam, Very gravelly loam, silty clay loam		*CL, GC-GM	*A-6, A-1	0	0-10	45-100	40-100	30-95	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
46B: Nicelytown-----	0-1	*Loam	*CL-ML, CL, SM	*A-4,	0	0-5	80-100	80-100	60-95	
	1-14	*Loam, Silt loam, fine sandy loam	*CL-ML, CL, SM	*A-4,	0	0-5	80-100	80-100	60-95	
	14-22	*Loam, Gravelly silt loam, clay loam, silty clay loam	*CL, GC-GM	*A-4, A-2, A-6	0	0-15	60-100	55-100	45-95	
	22-49	*Clay loam, Very gravelly silt loam, loam, silty clay loam	*CL, GC-GM	*A-6, A-1	0	0-10	45-100	40-100	30-95	
	49-65	*Clay loam, Very gravelly loam, silty clay loam	*CL, GC-GM	*A-6, A-1	0	0-10	45-100	40-100	30-95	
Urban land.										
47C: Oriskany, extremely stony-----	0-6	*Cobbly sandy loam	*SC-SM, GM	*A-2, A-1, A-4	0-15	15-50	50-90	50-90	35-75	
	6-11	*Cobbly sandy loam, Stony sandy loam, extremely cobbly loam	*SC-SM, SC, GW-GM	*A-2, A-1, A-6	0-15	15-55	50-90	30-90	20-80	
	11-65	*Very cobbly loam, Extremely cobbly loam, very stony clay loam, extremely cobbly sandy clay loam	*GC, CL, GC-GM	*A-4, A-1, A-6	5-15	20-50	30-75	25-75	20-75	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	Pct	4	10	40
47C: Laidig, extremely stony-----	In				Pct	Pct				
	0-4	*Channery loam	*CL-ML, GM	*A-4, A-1	0	5-30	50-95	45-95	140-90	
	4-9	*Channery loam, Gravelly fine sandy loam	*ML, CL-ML, GM	*A-4, A-1	0	5-30	50-95	45-95	140-90	
	9-32	*Channery loam, Channery sandy clay loam, channery clay loam	*CL, GC-GM	*A-4, A-2, A-6	0	10-30	50-90	45-90	140-85	
	32-67	*Channery loam, Cobbly sandy loam, very gravelly clay loam, extremely channery sandy clay loam	*CL, GC-GM	*A-4, A-1, A-6	0-10	10-45	25-90	25-90	120-85	
47E: Oriskany, extremely stony-----	0-6	*Cobbly sandy loam	*SC-SM, GM	*A-2, A-1, A-4	0-15	15-50	50-90	50-90	135-75	
	6-11	*Cobbly sandy loam, Stony sandy loam, extremely cobbly loam	*SC-SM, SC, GW-GM	*A-2, A-1, A-6	0-15	15-55	50-90	30-90	120-80	
	11-65	*Very cobbly loam, Extremely cobbly loam, very stony clay loam, extremely cobbly sandy clay loam	*GC, CL, GC-GM	*A-4, A-1, A-6	5-15	20-50	30-75	25-75	120-75	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
47E: Laidig, extremely stony-----	In				Pct	Pct				
	0-4	*Channery loam	*CL-ML, GM	*A-4, A-1	0	5-30	50-95	45-95	140-90	
	4-9	*Channery loam, Gravelly fine sandy loam	*ML, CL-ML, GM	*A-4, A-1	0	5-30	50-95	45-95	140-90	
	9-32	*Channery loam, Channery sandy clay loam, channery clay loam	*CL, GC-GM	*A-4, A-2, A-6	0	10-30	50-90	45-90	140-85	
	32-67	*Channery loam, Cobbly sandy loam, very gravelly clay loam, extremely channery sandy clay loam	*CL, GC-GM	*A-4, A-1, A-6	0-10	10-45	25-90	25-90	120-85	
48F: Oriskany, extremely stony-----	0-6	*Cobbly sandy loam	*SC-SM, GM	*A-2, A-1, A-4	0-15	15-50	50-90	50-90	135-75	
	6-11	*Cobbly sandy loam, Stony sandy loam, extremely cobbly loam	*SC-SM, SC, GW-GM	*A-2, A-1, A-6	0-15	15-55	50-90	30-90	120-80	
	11-65	*Very cobbly loam, Extremely cobbly loam, very stony clay loam, extremely cobbly sandy clay loam	*GC, CL, GC-GM	*A-4, A-1, A-6	5-15	20-50	30-75	25-75	120-75	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
49C: Oriskany, extremely stony-----	In				Pct	Pct				
	0-6	*Cobbly sandy loam	*SC-SM, GM	*A-2, A-1, A-4	0-15	15-50	50-90	50-90	135-75	
	6-11	*Cobbly sandy loam, Stony sandy loam, extremely cobbly loam	*SC-SM, SC, GW-GM	*A-2, A-1, A-6	0-15	15-55	50-90	30-90	120-80	
	11-65	*Very cobbly loam, Extremely cobbly loam, very stony clay loam, extremely cobbly sandy clay loam	*GC, CL, GC-GM	*A-4, A-1, A-6	5-15	20-50	30-75	25-75	120-75	
Murrill, extremely stony-----										
	0-4	*Cobbly loam	*CL, CL-ML	*A-4,	0	25-40	90-100	90-100	75-95	
	4-10	*Channery silt loam, Channery sandy loam, loam	*CL, CL-ML, SC, SC-SM	*A-6, A-4, A-2-4, A-1	0	0-7	75-85	65-85	140-85	
	10-40	*Channery silty clay loam, Silty clay loam, channery silt loam, channery clay loam	*CL, CL-ML, SC, SC-SM	*A-6, A-4	0	0-7	75-85	65-85	155-85	
	40-65	*Silty clay, Silty clay loam, channery clay loam	*CL,	*A-7, A-6	0	0-7	80-100	70-100	65-100	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	inches	inches	4	10	40
49E: Oriskany, extremely stony-----	In				Pct	Pct			
	0-6	*Cobbly sandy loam	*SC-SM, GM	*A-2, A-1, A-4	0-15	15-50	50-90	50-90	135-75
	6-11	*Cobbly sandy loam, Stony sandy loam, extremely cobbly loam	*SC-SM, SC, GW-GM	*A-2, A-1, A-6	0-15	15-55	50-90	30-90	120-80
	11-65	*Very cobbly loam, Extremely cobbly loam, very stony clay loam, extremely cobbly sandy clay loam	*GC, CL, GC-GM	*A-4, A-1, A-6	5-15	20-50	30-75	25-75	120-75
Murrill, extremely stony-----	0-4	*Cobbly loam	*CL, CL-ML	*A-4,	0	25-40	90-100	90-100	75-95
	4-10	*Channery silt loam, Channery sandy loam, loam	*CL, CL-ML, SC, SC-SM	*A-6, A-4, A-2-4, A-1	0	0-7	75-85	65-85	140-85
	10-40	*Channery silty clay loam, Silty clay loam, channery silt loam, channery clay loam	*CL, CL-ML, SC, SC-SM	*A-6, A-4	0	0-7	75-85	65-85	155-85
	40-65	*Silty clay, Silty clay loam, channery clay loam	*CL,	*A-7, A-6	0	0-7	80-100	70-100	65-100

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
49F: Oriskany, extremely stony-----	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
	0-6	*Cobbly sandy loam	*SC-SM, GM	*A-2, A-1, A-4	0-15	15-50	50-90	50-90	135-75	
	6-11	*Cobbly sandy loam, Stony sandy loam, extremely cobbly loam	*SC-SM, SC, GW-GM	*A-2, A-1, A-6	0-15	15-55	50-90	30-90	120-80	
Murrill, extremely stony-----	11-65	*Very cobbly loam, Extremely cobbly loam, very stony clay loam, extremely cobbly sandy clay loam	*GC, CL, GC-GM	*A-4, A-1, A-6	5-15	20-50	30-75	25-75	120-75	
	0-4	*Cobbly loam	*CL, CL-ML	*A-4,	0	25-40	90-100	90-100	75-95	
	4-10	*Channery silt loam, Channery sandy loam, loam	*CL, CL-ML, SC, SC-SM	*A-6, A-4, A-2-4, A-1	0	0-7	75-85	65-85	140-85	
	10-40	*Channery silty clay loam, Silty clay loam, channery silt loam, channery clay loam	*CL, CL-ML, SC, SC-SM	*A-6, A-4	0	0-7	75-85	65-85	155-85	
	40-65	*Silty clay, Silty clay loam, channery clay loam	*CL,	*A-7, A-6	0	0-7	80-100	70-100	65-100	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	40
50E: Peaks, very rocky-----	In				Pct	Pct				
	0-6	*Gravelly sandy loam	*SM, GM, SC-SM	*A-2, A-1	0	0	50-75	50-75	135-60	
	6-23	*Very gravelly sandy loam, Very gravelly loam, very gravelly fine sandy loam	*GM, GC-GM, GP-GM	*A-1,	0	0	30-50	25-50	115-40	
	23-29	*Bedrock	---	---	---	---	---	---	---	
	29-39	*Bedrock	---	---	---	---	---	---	---	
Edneytown, very rocky-----	0-4	*Loam	*ML, CL-ML, SM	*A-4,	0	0	75-100	75-100	65-95	
	4-8	*Loam, Fine sandy loam, sandy loam, gravelly loam	*ML, CL-ML, SM	*A-4,	0	0	50-100	50-100	40-95	
	8-36	*Sandy clay loam, Clay loam, loam, gravelly loam	*SC, CL, GC-GM	*A-4, A-1, A-6	0	0	50-100	50-100	40-95	
	36-64	*Sandy loam, loam, fine sandy loam, loamy sand, gravelly loam	*SM, SC-SM	*A-2, A-1, A-4	0	0	50-100	50-100	35-80	
	64-74	*Bedrock	---	---	---	---	---	---	---	



Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
50F: Peaks, very rocky-----										
	0-6	*Gravelly sandy loam	*SM, GM, SC-SM	*A-2, A-1	0	0	50-75	50-75	35-60	
	6-23	*Very gravelly sandy loam, Very gravelly loam, very gravelly fine sandy loam	*GM, GC-GM, GP-GM	*A-1,	0	0	30-50	25-50	15-40	
	23-29 29-39	*Bedrock *Bedrock	--- ---	--- ---	--- ---	---	---	---	---	
Edneytown, very rocky-----	0-4	*Loam	*ML, CL-ML, SM	*A-4,	0	0	75-100	75-100	65-95	
	4-8	*Loam, Fine sandy loam, sandy loam, gravelly loam	*ML, CL-ML, SM	*A-4,	0	0	50-100	50-100	40-95	
	8-36	*Sandy clay loam, Clay loam, loam, gravelly loam	*SC, CL, GC-GM	*A-4, A-1, A-6	0	0	50-100	50-100	40-95	
	36-64	*Sandy loam, loam, fine sandy loam, loamy sand, gravelly loam	*SM, SC-SM	*A-2, A-1, A-4	0	0	50-100	50-100	35-80	
64-74	*Bedrock		---	---	---	---	---	---	---	

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
51A: Philo-----	0-9	*Fine sandy loam	*SM, CL-ML, SC-SM	*A-4, A-2	0	0-16	80-100	80-100	70-95	
	9-23	*Fine sandy loam, loam, gravelly sandy loam, cobbly sandy loam	*SM, CL-ML, SC-SM	*A-4, A-2	0	0-23	75-100	75-100	65-95	
	23-30	*Loam, Fine sandy loam, gravelly sandy loam, cobbly sandy loam	*CL-ML, SM	*A-4,	0	0-23	75-100	75-100	60-90	
	30-65	*Cobbly loam, loam, gravelly fine sandy loam, very cobbly sandy loam	*GC-GM, GM, CL-ML	*A-4, A-2	0	0-36	55-100	55-100	45-90	
52C: Pignut, very stony-----	0-7	*Silt loam	*CL-ML, CL, ML	*A-4,	0	0	75-100	75-100	65-100	
	7-31	*Silty clay loam, Silt loam, loam, clay loam, gravelly silty clay loam	*CL, GC-GM	*A-6, A-2, A-7	0	0	50-100	50-100	40-100	
	31-37	*Channery silt loam, Very channery loam, extremely channery silt loam, gravelly loam	*CL-ML, CL, GM	*A-4, A-1	0	10-35	25-85	25-85	120-85	
	37-47	*Bedrock	---	---	---	---	---	---	---	

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
52C: Myersville, very stony-----										
	0-3	*Silt loam	*CL, SM	*A-4, A-2, A-6	0-4	0-13	90-100	90-100	75-100	
	3-28	*Silty clay loam, Clay loam, silt loam, loam, channery clay loam	*CL,	*A-6, A-7	0-10	0-27	70-100	70-100	60-100	
	28-50	*Channery silt loam, Very channery loam, very channery silty clay loam, silt loam, clay loam	*CL, GC-GM	*A-6, A-4, A-7	0-17	2-33	60-100	55-95	45-95	
	50-60	*Bedrock	---	---	---	---	---	---	---	
53E: Pignut, very stony-----										
	0-7	*Silt loam	*CL-ML, CL, ML	*A-4,	0	0	75-100	75-100	65-100	
	7-31	*Silty clay loam, Silt loam, loam, clay loam, gravelly silty clay loam	*CL, GC-GM	*A-6, A-2, A-7	0	0	50-100	50-100	40-100	
	31-37	*Channery silt loam, Very channery loam, extremely channery silt loam, gravelly loam	*CL-ML, CL, GM	*A-4, A-1	0	10-35	25-85	25-85	20-85	
	37-47	*Bedrock	---	---	---	---	---	---	---	

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
53F: Pignut, very stony-----	0-7	*Silt loam	*CL-ML, CL, ML	*A-4,	0	0	75-100	75-100	65-100	
	7-31	*Silty clay loam, Silt loam, loam, clay loam, gravelly silty clay loam	*CL, GC-GM	*A-6, A-2, A-7	0	0	50-100	50-100	40-100	
	31-37	*Channery silt loam, Very channery loam, extremely channery silt loam, gravelly loam	*CL-ML, CL, GM	*A-4, A-1	0	10-35	25-85	25-85	120-85	
	37-47	*Bedrock	---	---	---	---	---	---	---	
54. Pits and Dumps.										
55A: Pope-----	0-8	*Fine sandy loam	*SM, CL-ML	*A-4, A-2	0	0-15	75-100	75-100	65-95	
	8-45	*Gravelly sandy loam, Sandy loam, fine sandy loam, loam, cobbly sandy loam	*SM, GM, CL-ML	*A-2, A-1, A-4	0	0-35	60-100	55-100	40-85	
	45-65	*Very gravelly loamy sand, Fine sandy loam, sandy loam, extremely gravelly sandy loam, cobbly sandy loam	*GM, GP-GM, SC-SM	*A-1, A-2, A-4	0	0-30	20-100	20-100	15-95	
56G: Rock outcrop.										

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	Pct	4	10	40
	In				Pct	Pct				
56G:										
Opequon-----	0-2	*Silty clay loam	*Cl,			0	0-4	75-100	75-100	65-100
	2-14	*Clay, Silty clay loam, gravelly clay, channery silty clay	*CH, GC	*A-7, A-6 *A-7, A-2	0	0-7	55-100	55-100	55-100	35-100
	14-24	*Bedrock	---	---	---	---	---	---	---	---
57A:										
Sensabaugh-----	0-9	*Loam	*CL-ML, SM, CL	*A-4,	0	0-15	80-95	75-95	60-85	
	9-39	*Gravelly loam, Very gravelly clay loam, cobbly sandy clay loam, gravelly silt loam, gravelly silty clay loam	*GC, GC-GM, CL	*A-4, A-2, A-6	0-5	0-15	50-80	50-80	140-80	
	39-61	*Very cobbly sandy loam, Extremely cobbly fine sandy loam, gravelly loam, very gravelly clay loam, cobbly sandy clay loam, gravelly silt loam, gravelly silty clay loam	*GC-GM, GC, GP-GM	*A-1, A-7	0-10	0-80	25-80	20-80	15-65	
Lobdell-----	0-15	*Loam	*CL-ML, CL	*A-4,	0	0	90-100	90-100	75-95	
	15-33	*Loam, Silt loam	*CL-ML, CL, SC-SM	*A-4,	0	0	75-100	75-100	65-95	
	33-65	*Sandy loam, Loam, silt loam	*SC-SM, CL, SM	*A-2, A-4	0	0-10	75-100	75-100	55-90	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	inches	inches	Pct	4	10	40
	In				Pct	Pct				
57A:										
Derroc-----	0-3	*Very cobbly sandy loam	*SM, GM, SC-SM	*A-2, A-1	0-10	25-45	45-75	45-75	30-65	
	3-9	*Cobbly sandy loam, Very cobbly sandy loam, gravelly loam	*SM, GM, SC-SM	*A-4, A-1	0-10	15-45	45-95	45-95	30-80	
	9-33	*Very cobbly sandy loam, Very cobbly loam, gravelly loam, extremely cobbly sandy loam	*SM, GW-GM, SC-SM	*A-2, A-1	0-10	15-45	35-80	30-80	20-65	
	33-63	*Very cobbly loamy sand, Very cobbly sandy loam, gravelly sandy loam, very stony loamy sand	*SM, GP-GM	*A-1, A-2	0-20	15-45	35-80	30-80	20-60	
58B:										
Shottower-----	0-7	*Fine sandy loam	*SM, SC-SM, ML	*A-4, A-2	0	0-10	80-100	80-100	70-100	
	7-15	*Clay loam, Sandy clay loam, gravelly clay loam, cobbly clay loam	*ML, GC-GM, CL-ML	*A-4,	0	0-20	65-100	65-100	55-95	
	15-31	*Clay, Clay loam, gravelly clay, cobbly clay loam	*ML, GM	*A-4, A-6, A-7	0	0-20	65-100	65-100	55-100	
	31-50	*Gravelly clay, Cobbly clay, clay loam, clay	*ML, GM	*A-4, A-6, A-7	0	0-20	65-100	65-100	55-100	
	50-62	*Very gravelly clay, Very cobbly clay, gravelly clay, clay	*GM, MH	*A-7, A-6, A-2	0	0-30	40-100	35-100	30-100	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
58C:										
Shottower-----	0-7	*Fine sandy loam	*SM, SC-SM, ML	*A-4, A-2	0	0-10	80-100	80-100	70-100	
	7-15	*Clay loam, Sandy clay loam, gravelly clay loam, cobbly clay loam	*ML, GC-GM, CL-ML	*A-4,	0	0-20	65-100	65-100	55-95	
	15-31	*Clay, Clay loam, gravelly clay, cobbly clay loam	*ML, GM	*A-4, A-6, A-7	0	0-20	65-100	65-100	55-100	
	31-50	*Gravelly clay, Cobbly clay, clay loam, clay	*ML, GM	*A-4, A-6, A-7	0	0-20	65-100	65-100	55-100	
	50-62	*Very gravelly clay, Very cobbly clay, gravelly clay, clay	*GM, MH	*A-7, A-6, A-2	0	0-30	40-100	35-100	30-100	
58D:										
Shottower-----	0-7	*Fine sandy loam	*SM, SC-SM, ML	*A-4, A-2	0	0-10	80-100	80-100	70-100	
	7-15	*Clay loam, Sandy clay loam, gravelly clay loam, cobbly clay loam	*ML, GC-GM, CL-ML	*A-4,	0	0-20	65-100	65-100	55-95	
	15-31	*Clay, Clay loam, gravelly clay, cobbly clay loam	*ML, GM	*A-4, A-6, A-7	0	0-20	65-100	65-100	55-100	
	31-50	*Gravelly clay, Cobbly clay, clay loam, clay	*ML, GM	*A-4, A-6, A-7	0	0-20	65-100	65-100	55-100	
	50-62	*Very gravelly clay, Very cobbly clay, gravelly clay, clay	*GM, MH	*A-7, A-6, A-2	0	0-30	40-100	35-100	30-100	

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
59E: Shottower-----	0-6	*Cobbly fine sandy loam	*SM, SC-SM	*A-2, A-4	0	10-20	65-85	65-85	155-85	
	6-15	*Gravelly clay loam, Sandy clay loam, gravelly clay loam, cobbly clay loam	*ML, GC-GM, CL-ML	*A-4,	0	0-20	65-100	65-100	155-95	
	15-24	*Clay, Clay loam, gravelly clay, cobbly clay loam	*ML, GM	*A-4, A-6, A-7	0	0-20	65-100	65-100	155-100	
	24-40	*Gravelly clay, Cobbly clay, clay loam, clay	*ML, GM	*A-4, A-6, A-7	0	0-15	60-100	60-100	150-100	
	40-62	*Cobbly clay, Very cobbly clay, gravelly clay, clay	*ML, MH, GM	*A-7, A-6, A-2	0	0-30	40-100	35-100	130-100	
	60C: Shottower-----	0-7	*Fine sandy loam	*SM, SC-SM, ML	*A-4, A-2	0	0-10	80-100	80-100	170-100
	7-15	*Clay loam, Sandy clay loam, gravelly clay loam, cobbly clay loam	*ML, GC-GM, CL-ML	*A-4,	0	0-20	65-100	65-100	155-95	
	15-31	*Clay, Clay loam, gravelly clay, cobbly clay loam	*ML, GM	*A-4, A-6, A-7	0	0-20	65-100	65-100	155-100	
	31-50	*Gravelly clay, Cobbly clay, clay loam, clay	*ML, GM	*A-4, A-6, A-7	0	0-20	65-100	65-100	155-100	
	50-62	*Very gravelly clay, Very cobbly clay, gravelly clay, clay	*GM, MH	*A-7, A-6, A-2	0	0-30	40-100	35-100	130-100	
Urban land.										



Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
61B: Slabtown-----	0-9	*Silt loam	*CL-ML, ML, CL	*A-4,	0	0-5	75-95	75-95	65-95	
	9-14	*Silt loam, Gravelly loam	*CL, GC-GM	*A-4, A-2	0	0-5	50-95	50-95	40-95	
	14-35	*Silty clay loam, silt Gravelly loam, silt loam, clay loam	*CL, GC-GM	*A-6, A-4	0	0-15	50-95	50-95	45-95	
	35-64	*Silty clay, Clay, silty clay loam	*MH, CL	*A-7, A-6	0	0-5	75-100	75-100	65-100	
61C: Slabtown-----	0-9	*Silt loam	*CL-ML, ML, CL	*A-4,	0	0-5	75-95	75-95	65-95	
	9-14	*Silt loam, Gravelly loam	*CL, GC-GM	*A-4, A-2	0	0-5	50-95	50-95	40-95	
	14-35	*Silty clay loam, silt Gravelly loam, silt loam, clay loam	*CL, GC-GM	*A-6, A-4	0	0-15	50-95	50-95	45-95	
	35-64	*Silty clay, Clay, silty clay loam	*MH, CL	*A-7, A-6	0	0-5	75-100	75-100	65-100	
62. Slickens.										

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
63E: Stumptown, extremely stony-----	In				Pct	Pct				
	0-8	*Gravelly sandy loam, Gravelly loam	*GC-GM, SC-SM, GM	*A-1, A-2	0	0	50-75	50-75	135-58	
	8-17	*Very gravelly loam, Very gravelly sandy clay loam, very cobbly clay loam	*GC, GC-GM	*A-2, A-1, A-6	0	15-30	30-60	25-60	120-58	
	17-33	*Extremely stony loam, Very gravelly sandy clay loam, extremely cobbly sandy loam	*GC-GM, CL, GW-GM	*A-1, A-4	0-45	30-70	10-80	5-80	5-75	
	33-37	*Bedrock	---	---	---	---	---	---	---	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
63E: Marbleyard, extremely stony-----	In				Pct	Pct				
	0-4	*Very cobbly sandy loam	*SC-SM, GP-GM	*A-2, A-1	5-25	20-60	30-70	30-65	20-55	
	4-9	*Very cobbly sandy loam, Very gravelly loam, very stony fine sandy loam	*SC-SM, GC-GM, GP-GM	*A-1, A-2	0-25	20-60	30-65	30-65	20-50	
	9-23	*Extremely cobbly sandy loam, Extremely cobbly fine sandy loam, very cobbly sandy loam, very stony sandy loam, very gravelly loam	*GM, GP-GM, GC-GM	*A-1, A-2	5-30	20-70	20-70	15-65	15-55	
	23-36	*Extremely gravelly sandy loam, Extremely cobbly loamy sand, very cobbly sandy loam, very stony loam	*GP-GC, GW-GM	*A-1, A-2	0-20	20-65	10-45	10-45	5-35	
Rock outcrop.	36-46	*Bedrock	---	---	---	---	---	---	---	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
63F: Stumptown, extremely stony-----	In				Pct	Pct			
	0-8	*Gravelly sandy loam, Gravelly loam	*GC-GM, SC-SM, GM	*A-1, A-2	0	0	50-75	50-75	135-58
	8-17	*Very gravelly loam, Very gravelly sandy clay loam, very cobbly clay loam	*GC, GC-GM	*A-2, A-1, A-6	0	15-30	30-60	25-60	120-58
	17-33	*Extremely stony loam, Very gravelly sandy clay loam, extremely cobbly sandy loam	*GC-GM, CL, GW-GM	*A-1, A-4	0-45	30-70	10-80	5-80	5-75
	33-37	*Bedrock	---	---	---	---	---	---	---

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
63F: Marbleyard, extremely stony-----	In				Pct	Pct				
	0-4	*Very cobbly sandy loam	*SC-SM, GP-GM	*A-2, A-1	5-25	20-60	30-70	30-65	20-55	
	4-9	*Very cobbly sandy loam, Very gravelly loam, very stony fine sandy loam	*SC-SM, GC-GM, GP-GM	*A-1, A-2	0-25	20-60	30-65	30-65	20-50	
	9-23	*Extremely cobbly sandy loam, Extremely cobbly fine sandy loam, very cobbly sandy loam, very stony sandy loam, very gravelly loam	*GM, GP-GM, GC-GM	*A-1, A-2	5-30	20-70	20-70	15-65	15-55	
	23-36	*Extremely gravelly sandy loam, Extremely cobbly loamy sand, very cobbly sandy loam, very stony loam	*GP-GC, GW-GM	*A-1, A-2	0-20	20-65	10-45	10-45	5-35	
	36-46	*Bedrock	---	---	---	---	---	---	---	
Rock outcrop.										

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	inches	inches	Pct	4	10	40
63G: Stumptown, extremely stony-----	In					Pct	Pct			
	0-8	*Gravelly sandy loam, Gravelly loam	*GC-GM, SC-SM, GM	*A-1, A-2	0	0	50-75	50-75	135-58	
	8-17	*Very gravelly loam, Very gravelly sandy clay loam, very cobbly clay loam	*GC, GC-GM	*A-2, A-1, A-6	0	15-30	30-60	25-60	120-58	
	17-33	*Extremely stony loam, Very gravelly sandy clay loam, extremely cobbly sandy loam	*GC-GM, CL, GW-GM	*A-1, A-4	0-45	30-70	10-80	5-80	5-75	
	33-37	*Bedrock	---	---	---	---	---	---	---	
Marbleyard, extremely stony-----	0-4	*Very cobbly sandy loam	*SC-SM, GP-GM	*A-2, A-1	5-25	20-60	30-70	30-65	120-55	
	4-9	*Very cobbly sandy loam, Very gravelly loam, very stony fine sandy loam	*SC-SM, GC-GM, GP-GM	*A-1, A-2	0-25	20-60	30-65	30-65	120-50	
	9-23	*Extremely cobbly sandy loam, Extremely cobbly fine sandy loam, very cobbly sandy loam, very stony sandy loam, very gravelly loam	*GM, GP-GM, GC-GM	*A-1, A-2	5-30	20-70	20-70	15-65	115-55	
	23-36	*Extremely gravelly sandy loam, Extremely cobbly loamy sand, very cobbly sandy loam, very stony loam	*GP-GC, GW-GM	*A-1, A-2	0-20	20-65	10-45	10-45	5-35	
	36-46	*Bedrock	---	---	---	---	---	---	---	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	inches	inches	4	10	40	60
	In				Pct	Pct				
63G: Rock outcrop.										
64E: Stumpton, very stony-----	0-8	*Gravelly sandy loam, Gravelly loam	*GC-GM, SC-SM, GM	*A-1, A-2	0	0	50-75	50-75	135-58	
	8-17	*Very gravelly loam, Very gravelly sandy clay loam, very cobbly clay loam	*GC, GC-GM	*A-2, A-1, A-6	0	15-30	30-60	25-60	120-58	
	17-33	*Extremely stony loam, Very gravelly sandy clay loam, extremely cobbly sandy loam	*GC-GM, CL, GW-GM	*A-1, A-4	0-45	30-70	10-80	5-80	5-75	
	33-37	*Bedrock	---	---	---	---	---	---	---	
Sylco, very stony-----	0-6	*Channery loam	*SC-SM, GM, CL	*A-4, A-2	0-5	15-30	60-85	60-80	145-80	
	6-22	*Very channery loam, Very flaggy silt loam, extremely channery loam	*GC, GM	*A-2, A-1	0-10	25-45	35-65	35-65	125-65	
	22-29	*Extremely channery loam, Very channery loam, very flaggy silt loam	*GC-GM, GC, GP-GM	*A-2, A-1	0-10	25-50	20-60	20-60	115-60	
	29-39	*Bedrock	---	---	---	---	---	---	---	

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
64F: Stumpton, very stony-----	0-8	*Gravelly sandy loam, Gravelly loam	*GC-GM, SC-SM, GM	*A-1, A-2	0	0	50-75	50-75	35-58	
	8-17	*Very gravelly loam, Very gravelly sandy clay loam, very cobbly clay loam	*GC, GC-GM	*A-2, A-1, A-6	0	15-30	30-60	25-60	20-58	
	17-33	*Extremely stony loam, Very gravelly sandy clay loam, extremely cobbly sandy loam	*GC-GM, CL, GW-GM	*A-1, A-4	0-45	30-70	10-80	5-80	5-75	
	33-37	*Bedrock	---	---	---	---	---	---	---	
	0-6	*Channery loam	*SC-SM, GM, CL	*A-4, A-2	0-5	15-30	60-85	60-80	45-80	
Sylco, very stony-----	6-22	*Very channery loam, Very flaggy silt loam, extremely channery loam	*GC, GM	*A-2, A-1	0-10	25-45	35-65	35-65	25-65	
	22-29	*Extremely channery loam, Very channery loam, very flaggy silt loam	*GC-GM, GC, GP-GM	*A-2, A-1	0-10	25-50	20-60	20-60	15-60	
	29-39	*Bedrock	---	---	---	---	---	---	---	



Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	inches	inches	Pct	4	10	40
	In				>10	3-10	Pct			
65E: Sylco, very rocky-----	0-6	*Channery loam	*SC-SM, GM, CL	*A-4, A-2	0-5	15-30		60-85	60-80	145-80
	6-22	*Very channery loam, Very flaggy silt loam, extremely channery loam	*GC, GM	*A-2, A-1	0-10	25-45		35-65	35-65	125-65
	22-29	*Extremely channery loam, Very channery loam, Very flaggy silt loam	*GC-GM, GC, GP-GM	*A-2, A-1	0-10	25-50		20-60	20-60	115-60
	29-39	*Bedrock	---	---	---	---		---	---	---
Marbleyard, very rocky-----	0-4	*Very cobbly sandy loam	*SC-SM, GP-GM	*A-2, A-1	5-25	20-60		30-70	30-65	120-55
	4-9	*Very cobbly sandy loam, Very gravelly loam, very stony fine sandy loam	*SC-SM, GC-GM, GP-GM	*A-1, A-2	0-25	20-60		30-65	30-65	120-50
	9-23	*Extremely cobbly sandy loam, Extremely cobbly fine sandy loam, very cobbly sandy loam, very stony sandy loam, very gravelly loam	*GM, GP-GM, GC-GM	*A-1, A-2	5-30	20-70		20-70	15-65	115-55
	23-36	*Extremely gravelly sandy loam, Extremely cobbly loamy sand, very cobbly sandy loam, very stony loam	*GP-GC, GW-GM	*A-1, A-2	0-20	20-65		10-45	10-45	5-35
	36-46	*Bedrock	---	---	---	---		---	---	---

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	inches	inches	Pct	4	10	40
	In				>10	3-10	Pct			
65F:										
Sylco, very										
rocky-----	0-6	*Channery loam	*SC-SM, GM, CL	*A-4, A-2	0-5	15-30		60-85	60-80	145-80
	6-22	*Very channery loam, Very flaggy silt loam, extremely channery loam	*GC, GM	*A-2, A-1	0-10	25-45		35-65	35-65	125-65
	22-29	*Extremely channery loam, Very channery loam, Very flaggy silt loam	*GC-GM, GC, GP-GM	*A-2, A-1	0-10	25-50		20-60	20-60	115-60
	29-39	*Bedrock	---	---	---	---		---	---	---
Marbleyard, very rocky-----	0-4	*Very cobbly sandy loam	*SC-SM, GP-GM	*A-2, A-1	5-25	20-60		30-70	30-65	120-55
	4-9	*Very cobbly sandy loam, Very gravelly loam, Very stony fine sandy loam	*SC-SM, GC-GM, GP-GM	*A-1, A-2	0-25	20-60		30-65	30-65	120-50
	9-23	*Extremely cobbly sandy loam, Extremely cobbly fine sandy loam, very cobbly sandy loam, very stony sandy loam, very gravelly loam	*GM, GP-GM, GC-GM	*A-1, A-2	5-30	20-70		20-70	15-65	115-55
	23-36	*Extremely gravelly sandy loam, Extremely cobbly loamy sand, very cobbly sandy loam, very stony loam	*GP-GC, GW-GM	*A-1, A-2	0-20	20-65		10-45	10-45	5-35
	36-46	*Bedrock	---	---	---	---		---	---	---

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	inches	inches	Pct	4	10	40
	In				>10	3-10	Pct			
65G:										
Sylco, very										
rocky-----	0-6	*Channery loam	*SC-SM, GM, CL	*A-4, A-2	0-5	15-30		60-85	60-80	145-80
	6-22	*Very channery loam, Very flaggy silt loam, extremely channery loam	*GC, GM	*A-2, A-1	0-10	25-45		35-65	35-65	125-65
	22-29	*Extremely channery loam, Very channery loam, Very flaggy silt loam	*GC-GM, GC, GP-GM	*A-2, A-1	0-10	25-50		20-60	20-60	115-60
	29-39	*Bedrock	---	---	---	---		---	---	---
Marbleyard, very rocky-----	0-4	*Very cobbly sandy loam	*SC-SM, GP-GM	*A-2, A-1	5-25	20-60		30-70	30-65	120-55
	4-9	*Very cobbly sandy loam, Very gravelly loam, Very stony fine sandy loam	*SC-SM, GC-GM, GP-GM	*A-1, A-2	0-25	20-60		30-65	30-65	120-50
	9-23	*Extremely cobbly sandy loam, Extremely cobbly fine sandy loam, very cobbly sandy loam, very stony sandy loam, very gravelly loam	*GM, GP-GM, GC-GM	*A-1, A-2	5-30	20-70		20-70	15-65	115-55
	23-36	*Extremely gravelly sandy loam, Extremely cobbly loamy sand, very cobbly sandy loam, very stony loam	*GP-GC, GW-GM	*A-1, A-2	0-20	20-65		10-45	10-45	5-35
	36-46	*Bedrock	---	---	---	---		---	---	---

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
66C: Thunder, very bouldery-----	In				Pct	Pct				
	0-16	*Very cobbly loam	*GC-GM, GM, GC	*A-4, A-1	0-15	30-50	40-75	35-75	30-70	
	16-22	*Very gravelly loam, Very cobbly loam	*GC-GM, GM, GC	*A-2, A-1, A-4	0-15	5-50	35-60	35-55	25-55	
	22-38	*Extremely stony loam, Very cobbly clay loam, very cobbly sandy clay loam	*GC, GC-GM, CL	*A-4, A-2, A-6	0-40	35-55	30-80	25-80	20-80	
	38-46	*Very cobbly loam, Extremely stony clay loam, very cobbly sandy clay loam	*GC, GC-GM, CL	*A-4, A-2, A-7	0-40	35-55	30-80	25-80	20-80	
	46-65	*Very cobbly loam, Extremely cobbly sandy loam, extremely stony clay loam, very cobbly sandy clay loam	*GC-GM, GM, CL	*A-2, A-1, A-6	0-40	35-55	30-80	25-80	20-80	

Table 15.—Engineering Properties--Continued

[illegible]

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
66E: Thunder, very bouldery-----	In				Pct	Pct				
	0-16	*Very cobbly loam	*GC-GM, GM, GC	*A-4, A-1	0-15	30-50	40-75	35-75	30-70	
	16-22	*Very gravelly loam, Very cobbly loam	*GC-GM, GM, GC	*A-2, A-1, A-4	0-15	5-50	35-60	35-55	25-55	
	22-38	*Extremely stony loam, Very cobbly clay loam, very cobbly sandy clay loam	*GC, GC-GM, CL	*A-4, A-2, A-6	0-40	35-55	30-80	25-80	20-80	
	38-46	*Very cobbly loam, Extremely stony clay loam, very cobbly sandy clay loam	*GC, GC-GM, CL	*A-4, A-2, A-7	0-40	35-55	30-80	25-80	20-80	
	46-65	*Very cobbly loam, Extremely cobbly sandy loam, extremely stony clay loam, very cobbly sandy clay loam	*GC-GM, GM, CL	*A-2, A-1, A-6	0-40	35-55	30-80	25-80	20-80	

Table 15.—Engineering Properties--Continued

[illegible]

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
66F: Thunder, very bouldery-----	In				Pct	Pct				
	0-16	*Very cobbly loam	*GC-GM, GM, GC	*A-4, A-1	0-15	30-50	40-75	35-75	30-70	
	16-22	*Very gravelly loam, Very cobbly loam	*GC-GM, GM, GC	*A-2, A-1, A-4	0-15	5-50	35-60	35-55	25-55	
	22-38	*Extremely stony loam, Very cobbly clay loam, very cobbly sandy clay loam	*GC, GC-GM, CL	*A-4, A-2, A-6	0-40	35-55	30-80	25-80	20-80	
	38-46	*Very cobbly loam, Extremely stony clay loam, very cobbly sandy clay loam	*GC, GC-GM, CL	*A-4, A-2, A-7	0-40	35-55	30-80	25-80	20-80	
	46-65	*Very cobbly loam, Extremely cobbly sandy loam, extremely stony clay loam, very cobbly sandy clay loam	*GC-GM, GM, CL	*A-2, A-1, A-6	0-40	35-55	30-80	25-80	20-80	



Table 15.—Engineering Properties--Continued

[illegible]

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
67C:										
Tumbling-----	0-5	*Fine sandy loam	*SM,	*A-2, A-4	0	0-15	75-100	75-100	70-100	
	5-12	*Fine sandy loam, Cobbly sandy loam, gravelly loam	*SM, GM, CL-ML	*A-2, A-1, A-4	0	0-50	50-100	50-100	45-100	
	12-18	*Sandy clay loam, Cobbly sandy clay loam, gravelly clay loam, clay loam, clay	*SM, ML, GC-GM	*A-4, A-2	0	0-40	65-100	65-100	50-100	
	18-31	*Clay, Cobbly sandy clay loam, gravelly clay loam, clay loam, sandy clay loam	*ML, GM	*A-4, A-7	0	0-40	65-100	65-100	50-100	
	31-65	*Cobbly clay, Very cobbly sandy clay, gravelly clay loam, very stony clay, sandy clay, clay	*ML, GM	*A-4, A-2, A-7	0-55	0-45	40-100	40-100	35-100	

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
67C:										
Vanella-----	0-6	*Fine sandy loam	*SM, SC-SM	*A-4, A-2	0	0-15	85-100	80-100	70-100	
	6-16	*Fine sandy loam, Gravelly fine sandy loam, cobbly fine sandy loam, cobbly sandy loam, loam	*SM, CL	*A-4, A-2	0	0-40	65-100	65-100	55-100	
	16-33	*Loam, Gravelly loam, cobbly sandy loam, cobbly sandy clay loam, clay loam	*CL-ML, CL, GM	*A-4, A-2, A-6	0	0-40	65-100	65-100	50-100	
	33-45	*Clay loam, Cobbly clay loam, very cobbly sandy clay loam, gravelly clay loam, loam	*CL, GC-GM	*A-6, A-2	0	0-60	55-100	50-100	40-95	
	45-62	*Very cobbly clay loam, Cobbly clay loam, very cobbly sandy clay loam, gravelly clay loam, sandy clay, clay	*GC, MH, GC-GM	*A-6, A-2, A-7	0-15	0-60	55-100	50-100	40-100	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
67D:										
Tumbling-----	0-5	*Fine sandy loam	*SM,	*A-2, A-4	0	0-15	75-100	75-100	70-100	
	5-12	*Fine sandy loam, Cobbly sandy loam, gravelly loam	*SM, GM, CL-ML	*A-2, A-1, A-4	0	0-50	50-100	50-100	45-100	
	12-18	*Sandy clay loam, Cobbly sandy clay loam, gravelly clay loam, clay loam, clay	*SM, ML, GC-GM	*A-4, A-2	0	0-40	65-100	65-100	50-100	
	18-31	*Clay, Cobbly sandy clay loam, gravelly clay loam, clay loam, sandy clay loam	*ML, GM	*A-4, A-7	0	0-40	65-100	65-100	50-100	
	31-65	*Cobbly clay, Very cobbly sandy clay, gravelly clay loam, very stony clay, sandy clay, clay	*ML, GM	*A-4, A-2, A-7	0-55	0-45	40-100	40-100	35-100	

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
67D:										
Vanella-----	0-6	*Fine sandy loam	*SM, SC-SM	*A-4, A-2	0	0-15	85-100	80-100	70-100	
	6-16	*Fine sandy loam, Gravelly fine sandy loam, cobbly fine sandy loam, cobbly sandy loam, loam	*SM, CL	*A-4, A-2	0	0-40	65-100	65-100	55-100	
	16-33	*Loam, Gravelly loam, cobbly sandy loam, cobbly sandy clay loam, clay loam	*CL-ML, CL, GM	*A-4, A-2, A-6	0	0-40	65-100	65-100	50-100	
	33-45	*Clay loam, Cobbly clay loam, very cobbly sandy clay loam, gravelly clay loam, loam	*CL, GC-GM	*A-6, A-2	0	0-60	55-100	50-100	40-95	
	45-62	*Very cobbly clay loam, Cobbly clay loam, very cobbly sandy clay loam, gravelly clay loam, sandy clay, clay	*GC, MH, GC-GM	*A-6, A-2, A-7	0-15	0-60	55-100	50-100	40-100	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	<u>In</u>				Pct	Pct				
67E:										
Tumbling-----	0-5	*Fine sandy loam	*SM,	*A-2, A-4	0	0-15	75-100	75-100	70-100	
	5-12	*Fine sandy loam, Cobbly sandy loam, gravelly loam	*SM, GM, CL-ML	*A-2, A-1, A-4	0	0-50	50-100	50-100	45-100	
	12-18	*Sandy clay loam, Cobbly sandy clay loam, gravelly clay loam, clay loam, clay	*SM, ML, GC-GM	*A-4, A-2	0	0-40	65-100	65-100	50-100	
	18-31	*Clay, Cobbly sandy clay loam, gravelly clay loam, clay loam, sandy clay loam	*ML, GM	*A-4, A-7	0	0-40	65-100	65-100	50-100	
	31-65	*Cobbly clay, Very cobbly sandy clay, gravelly clay loam, very stony clay, sandy clay, clay	*ML, GM	*A-4, A-2, A-7	0-55	0-45	40-100	40-100	35-100	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
67E: Vanella-----	In				Pct	Pct				
	0-6	*Fine sandy loam	*SM, SC-SM	*A-4, A-2	0	0-15	85-100	80-100	70-100	
	6-16	*Fine sandy loam, Gravelly fine sandy loam, cobbly fine sandy loam, cobbly sandy loam, loam	*SM, CL	*A-4, A-2	0	0-40	65-100	65-100	55-100	
	16-33	*Loam, Gravelly loam, cobbly sandy loam, cobbly sandy clay loam, clay loam	*CL-ML, CL, GM	*A-4, A-2, A-6	0	0-40	65-100	65-100	50-100	
	33-45	*Clay loam, Cobbly clay loam, very cobbly sandy clay loam, gravelly clay loam, loam	*CL, GC-GM	*A-6, A-2	0	0-60	55-100	50-100	40-95	
	45-62	*Very cobbly clay loam, Cobbly clay loam, very cobbly sandy clay loam, gravelly clay loam, sandy clay, clay	*GC, MH, GC-GM	*A-6, A-2, A-7	0-15	0-60	55-100	50-100	40-100	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
68D:										
Tumbling-----	0-5	*Fine sandy loam	*SM,	*A-2, A-4	0	0-15	75-100	75-100	70-100	
	5-12	*Fine sandy loam, Cobbly sandy loam, gravelly loam	*SM, GM, CL-ML	*A-2, A-1, A-4	0	0-50	50-100	50-100	45-100	
	12-18	*Sandy clay loam, Cobbly sandy clay loam, gravelly clay loam, clay loam, clay	*SM, ML, GC-GM	*A-4, A-2	0	0-40	65-100	65-100	50-100	
	18-31	*Clay, Cobbly sandy clay loam, gravelly clay loam, clay loam, sandy clay loam	*ML, GM	*A-4, A-7	0	0-40	65-100	65-100	50-100	
	31-65	*Cobbly clay, Very cobbly sandy clay, gravelly clay loam, very stony clay, sandy clay, clay	*ML, GM	*A-4, A-2, A-7	0-55	0-45	40-100	40-100	35-100	



Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
68D: Vanella-----	In				Pct	Pct				
	0-6	*Fine sandy loam	*SM, SC-SM	*A-4, A-2	0	0-15	85-100	80-100	70-100	
	6-16	*Fine sandy loam, Gravelly fine sandy loam, cobbly fine sandy loam, cobbly sandy loam, loam	*SM, CL	*A-4, A-2	0	0-40	65-100	65-100	55-100	
	16-33	*Loam, Gravelly loam, cobbly sandy loam, cobbly sandy clay loam, clay loam	*CL-ML, CL, GM	*A-4, A-2, A-6	0	0-40	65-100	65-100	50-100	
	33-45	*Clay loam, Cobbly clay loam, very cobbly sandy clay loam, gravelly clay loam, loam	*CL, GC-GM	*A-6, A-2	0	0-60	55-100	50-100	40-95	
	45-62	*Very cobbly clay loam, Cobbly clay loam, very cobbly sandy clay loam, gravelly clay loam, sandy clay, clay	*GC, MH, GC-GM	*A-6, A-2, A-7	0-15	0-60	55-100	50-100	40-100	
Urban land.										

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
69A: Tygart-----	0-7	*Silt loam								
	7-12	*Silty clay loam, Clay loam	*CL, CL-ML *CL,	*A-4, *A-6, A-4, A-7	0	0	0	95-100	95-100	85-100
	12-17	*Silty clay, Clay loam, silty clay loam, clay	*ML, MH, CL	*A-7, A-6	0	0	0	95-100	95-100	85-100
	17-49	*Clay, Clay loam, silty clay loam, silty clay	*ML, CL, MH	*A-7, A-6	0	0	0	95-100	95-100	80-100
	49-65	*Silty clay loam, Silty clay, clay, gravelly silty clay loam	*CL, MH, GC	*A-6, A-7	0	0	0	55-100	55-100	50-100
Purdy-----	0-7	*Silty clay loam	*CL,	*A-6, A-4, A-7	0	0-3	0	95-100	95-100	90-100
	7-11	*Silty clay loam, Clay loam, silty clay, clay	*CL, MH	*A-7, A-6	0	0-3	0	95-100	95-100	90-100
	11-32	*Clay, Clay loam, silty clay loam, silty clay	*ML, MH, CL	*A-7, A-6	0	0-3	0	95-100	95-100	80-100
	32-65	*Clay loam, Silty clay loam, silty clay, clay	*CL, MH	*A-7, A-6	0	0-7	0	85-100	85-100	80-100
70. Udorthents, refuse substratum.										
71. Udorthents-Urban land.										

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
72C: Unaka, very stony-----	In				Pct	Pct				
	0-13	*Gravelly loam	*GC-GM, GM, CL	*A-4, A-1	0-5	0-15	50-75	45-75	135-70	
	13-27	*Gravelly loam, Loam, cobbly loam, sandy clay loam, sandy loam	*GC-GM, GM, CL	*A-4, A-1	0-5	0-20	50-100	50-100	135-95	
	27-37	*Unweathered bedrock	---	---	---	---	---	---	---	
	0-12	*Gravelly loam	*SC-SM, GM, CL	*A-4, A-1	0-5	0-15	50-75	45-75	135-70	
Plott, very stony-----	12-48	*Gravelly loam, Loam, cobbly loam, sandy clay loam, sandy loam	*GC-GM, GM, CL	*A-4, A-1	0-5	0-20	50-100	50-100	135-95	
	48-62	*Very gravelly loam, Cobbly loam, loam, sandy loam	*GC-GM, GM, CL-ML	*A-2, A-1, A-4	0-5	0-35	30-100	25-100	120-90	
72E: Unaka, very stony-----	0-13	*Gravelly loam	*GC-GM, GM, CL	*A-4, A-1	0-5	0-15	50-75	45-75	135-70	
	13-27	*Gravelly loam, Loam, cobbly loam, sandy clay loam, sandy loam	*GC-GM, GM, CL	*A-4, A-1	0-5	0-20	50-100	50-100	135-95	
	27-37	*Unweathered bedrock	---	---	---	---	---	---	---	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
72E: Plott, very stony-----	In				Pct	Pct				
	0-12	*Gravelly loam	*SC-SM, GM, CL	*A-4, A-1	0-5	0-15	50-75	45-75	35-70	
	12-48	*Gravelly loam, Loam, cobbly loam, sandy clay loam, sandy loam	*GC-GM, GM, CL	*A-4, A-1	0-5	0-20	50-100	50-100	35-95	
	48-62	*Very gravelly loam, Cobbly loam, loam, sandy loam	*GC-GM, GM, CL-ML	*A-2, A-1, A-4	0-5	0-35	30-100	25-100	20-90	
73C: Vanella, very stony-----	0-4	*Cobbly fine sandy loam, Gravelly fine sandy loam	*SM, SC-SM, GM	*A-2, A-1, A-4	0	15-40	60-95	60-90	45-85	
	4-24	*Gravelly fine sandy loam, Cobbly fine sandy loam, cobbly sandy loam, loam	*SM, CL	*A-2, A-1, A-4	0	0-40	65-100	65-100	50-100	
	24-32	*Gravelly loam, Cobbly sandy loam, cobbly sandy clay loam, loam, clay loam	*SC-SM, CL, GM	*A-4, A-2, A-6	0	0-40	65-100	65-100	50-100	
	32-51	*Cobbly clay loam, Very cobbly sandy clay loam, gravelly clay loam, loam, clay loam	*CL, GC-GM	*A-6, A-2	0-15	0-60	55-100	50-100	40-95	
	51-65	*Cobbly clay loam, Very cobbly sandy clay loam, gravelly clay loam, sandy clay, clay	*CL, MH, GC-GM	*A-6, A-2, A-7	0-15	0-60	55-100	50-100	40-100	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
73C: Tumbling, very stony-----	In				Pct	Pct			
	0-5	*Cobbly fine sandy loam, Gravelly fine sandy loam	*SM, GM	*A-2, A-4	0	15-40	60-90	60-90	55-90
	5-7	*Gravelly loam, Fine sandy loam, gravelly sandy loam, cobbly fine sandy loam	*SM, GM, CL-ML	*A-2, A-1, A-4	0	0-50	50-100	50-100	45-100
	7-15	*Clay loam, Cobbly sandy clay loam, gravelly clay loam, clay	*ML, GC-GM	*A-4,	0	0-40	65-100	65-100	55-100
	15-30	*Clay, Cobbly sandy clay loam, gravelly clay loam, clay loam	*ML, GM	*A-4, A-7	0	0-40	65-100	65-100	50-95
	30-62	*Cobbly clay, Very cobbly sandy clay, gravelly clay loam, sandy clay, clay	*ML, GM	*A-4, A-2, A-7	0-15	0-60	55-100	50-100	45-95
	62-65	*Very stony clay, Very cobbly sandy clay, gravelly clay loam, sandy clay, clay	*ML, GM	*A-4, A-2, A-7	0-55	0-45	45-100	40-100	35-95

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
73E: Vanella, very stony-----	0-4	*Cobbly fine sandy loam, Gravelly fine sandy loam	*SM, SC-SM, GM	*A-2, A-1, A-4	0	15-40	60-95	60-90	145-85	
	4-24	*Gravelly fine sandy loam, Cobbly fine sandy loam, cobbly sandy loam, loam	*SM, CL	*A-2, A-1, A-4	0	0-40	65-100	65-100	150-100	
	24-32	*Gravelly loam, Cobbly sandy loam, cobbly sandy clay loam, loam, clay loam	*SC-SM, CL, GM	*A-4, A-2, A-6	0	0-40	65-100	65-100	150-100	
	32-51	*Cobbly clay loam, Very cobbly sandy clay loam, gravelly clay loam, loam, clay loam	*CL, GC-GM	*A-6, A-2	0-15	0-60	55-100	50-100	40-95	
	51-65	*Cobbly clay loam, Very cobbly sandy clay loam, gravelly clay loam, sandy clay, clay	*CL, MH, GC-GM	*A-6, A-2, A-7	0-15	0-60	55-100	50-100	40-100	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
73E: Tumbling, very stony-----	In				Pct	Pct			
	0-5	*Cobbly fine sandy loam, Gravelly fine sandy loam	*SM, GM	*A-2, A-4	0	15-40	60-90	60-90	55-90
	5-7	*Gravelly loam, Fine sandy loam, gravelly sandy loam, cobbly fine sandy loam	*SM, GM, CL-ML	*A-2, A-1, A-4	0	0-50	50-100	50-100	45-100
	7-15	*Clay loam, Cobbly sandy clay loam, gravelly clay loam, clay	*ML, GC-GM	*A-4,	0	0-40	65-100	65-100	55-100
	15-30	*Clay, Cobbly sandy clay loam, gravelly clay loam, clay loam	*ML, GM	*A-4, A-7	0	0-40	65-100	65-100	50-95
	30-62	*Cobbly clay, Very cobbly sandy clay, gravelly clay loam, sandy clay, clay	*ML, GM	*A-4, A-2, A-7	0-15	0-60	55-100	50-100	45-95
	62-65	*Very stony clay, Very cobbly sandy clay, gravelly clay loam, sandy clay, clay	*ML, GM	*A-4, A-2, A-7	0-55	0-45	45-100	40-100	35-95

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
74C: Watahala, very stony-----										
	0-3	*Cobbly loam	*GC-GM, CL-ML, GM	*A-4, A-2	0	5-35	55-80	55-80	145-75	
	3-13	*Gravelly loam, Cobbly loam, gravelly fine sandy loam, very cobbly silt loam	*GC-GM, CL, GM	*A-4, A-1	0	5-35	50-85	50-80	140-77	
	13-25	*Gravelly loam, Gravelly clay loam, cobbly clay loam, very gravelly silty clay loam, very cobbly silt loam	*GC-GM, CL	*A-4, A-1, A-6	0	0-35	45-75	40-75	135-75	
	25-62	*Cobbly clay, Gravelly silty clay, clay	*MH, GC	*A-7, A-2	0-10	0-30	45-100	45-100	135-100	
	0-2	*Cobbly loam	*GC-GM, GM, CL-ML	*A-4, A-2	0	10-35	55-80	50-80	140-75	
	2-10	*Gravelly loam, Cobbly loam, loam, very cobbly silt loam, fine sandy loam	*GC-GM, GM, CL	*A-4, A-2	0	0-25	50-85	50-85	140-85	
	10-15	*Silty clay loam, Clay loam, clay	*CL, MH	*A-6, A-4, A-7	0	0	75-100	75-100	65-100	
	15-36	*Clay, Silty clay	*MH, CL	*A-7,	0	0	75-100	70-100	55-95	
	36-62	*Clay, Silty clay	*MH, CL	*A-7,	0	0	75-100	70-100	55-100	
Frederick, very stony-----										
	0-2	*Cobbly loam	*GC-GM, GM, CL-ML	*A-4, A-2	0	10-35	55-80	50-80	140-75	
	2-10	*Gravelly loam, Cobbly loam, loam, very cobbly silt loam, fine sandy loam	*GC-GM, GM, CL	*A-4, A-2	0	0-25	50-85	50-85	140-85	
	10-15	*Silty clay loam, Clay loam, clay	*CL, MH	*A-6, A-4, A-7	0	0	75-100	75-100	65-100	
	15-36	*Clay, Silty clay	*MH, CL	*A-7,	0	0	75-100	70-100	55-95	
	36-62	*Clay, Silty clay	*MH, CL	*A-7,	0	0	75-100	70-100	55-100	



Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
74E: Watahala, very stony-----										
	0-3	*Cobbly loam	*GC-GM, CL-ML, GM	*A-4, A-2	0	5-35	55-80	55-80	145-75	
	3-13	*Gravelly loam, Cobbly loam, gravelly fine sandy loam, very cobbly silt loam	*GC-GM, CL, GM	*A-4, A-1	0	5-35	50-85	50-80	140-77	
	13-25	*Gravelly loam, Gravelly clay loam, cobbly clay loam, very gravelly silty clay loam, very cobbly silt loam	*GC-GM, CL	*A-4, A-1, A-6	0	0-35	45-75	40-75	135-75	
	25-62	*Cobbly clay, Gravelly silty clay, clay	*MH, GC	*A-7, A-2	0-10	0-30	45-100	45-100	135-100	
	0-2	*Cobbly loam	*GC-GM, GM, CL-ML	*A-4, A-2	0	10-35	55-80	50-80	140-75	
	2-10	*Gravelly loam, Cobbly loam, loam, very cobbly silt loam, fine sandy loam	*GC-GM, GM, CL	*A-4, A-2	0	0-25	50-85	50-85	140-85	
	10-15	*Silty clay loam, Clay loam, clay	*CL, MH	*A-6, A-4, A-7	0	0	75-100	75-100	65-100	
	15-36	*Clay, Silty clay	*MH, CL	*A-7,	0	0	75-100	70-100	55-95	
	36-62	*Clay, Silty clay	*MH, CL	*A-7,	0	0	75-100	70-100	55-100	
Frederick, very stony-----										
	0-2	*Cobbly loam	*GC-GM, GM, CL-ML	*A-4, A-2	0	10-35	55-80	50-80	140-75	
	2-10	*Gravelly loam, Cobbly loam, loam, very cobbly silt loam, fine sandy loam	*GC-GM, GM, CL	*A-4, A-2	0	0-25	50-85	50-85	140-85	
	10-15	*Silty clay loam, Clay loam, clay	*CL, MH	*A-6, A-4, A-7	0	0	75-100	75-100	65-100	
	15-36	*Clay, Silty clay	*MH, CL	*A-7,	0	0	75-100	70-100	55-95	
	36-62	*Clay, Silty clay	*MH, CL	*A-7,	0	0	75-100	70-100	55-100	

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
74F: Watahala, very stony-----	0-3	*Cobbly loam	*GC-GM, CL-ML, GM	*A-4, A-2	0	5-35	55-80	55-80	145-75	
	3-13	*Gravelly loam, Cobbly loam, gravelly fine sandy loam, very cobbly silt loam	*GC-GM, CL, GM	*A-4, A-1	0	5-35	50-85	50-80	140-77	
	13-25	*Gravelly loam, Gravelly clay loam, cobbly clay loam, very gravelly silty clay loam, very cobbly silt loam	*GC-GM, CL	*A-4, A-1, A-6	0	0-35	45-75	40-75	135-75	
	25-62	*Cobbly clay, Gravelly silty clay, clay	*MH, GC	*A-7, A-2	0-10	0-30	45-100	45-100	135-100	
Frederick, very stony-----	0-2	*Cobbly loam	*GC-GM, GM, CL-ML	*A-4, A-2	0	10-35	55-80	50-80	140-75	
	2-10	*Gravelly loam, Cobbly loam, loam, very cobbly silt loam, fine sandy loam	*GC-GM, GM, CL	*A-4, A-2	0	0-25	50-85	50-85	140-85	
	10-15	*Silty clay loam, Clay loam, clay	*CL, MH	*A-6, A-4, A-7	0	0	75-100	75-100	65-100	
	15-36	*Clay, Silty clay	*MH, CL	*A-7,	0	0	75-100	70-100	55-95	
	36-62	*Clay, Silty clay	*MH, CL	*A-7,	0	0	75-100	70-100	55-100	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	Pct	4	10	40
75E: Weikert-----	In				Pct	Pct				
	0-4	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	8-20	60-85	55-80	150-80	
	4-14	*Very channery silt loam, Very channery loam	*GC-GM, GC, GM	*A-4, A-1	0	15-25	35-60	35-60	125-60	
	14-17	*Extremely channery silt loam, Extremely channery loam	*GC-GM, GC, GP-GM	*A-2, A-1	0	35-45	20-45	15-40	115-40	
	17-27	*Bedrock	---	---	---	---	---	---	---	---
Berks-----	0-3	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	15-25	65-85	65-85	60-85	
	3-9	*Channery silt loam, Very channery silt loam, channery loam	*CL-ML, CL, GM	*A-4, A-2	0	15-65	45-85	40-85	135-85	
	9-27	*Very channery silt loam, Very channery loam, extremely channery silt loam	*GC-GM, GC, GM	*A-4, A-1	0	15-25	30-65	25-60	120-60	
	27-30	*Extremely channery silt loam, Very channery silt loam, very channery loam	*GC-GM, CL, GM	*A-2, A-1, A-4	0	25-45	25-65	20-65	120-65	
	30-40	*Bedrock	---	---	---	---	---	---	---	---

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
75E: Rough-----	0-2	*Very channery silt loam	*GC-GM, GM, GC	*A-4, A-1	0	15-25	35-60	35-60	30-60
	2-5	*Very channery silt loam, Extremely channery silt loam, extremely channery loam	*GC-GM, GM, GC	*A-2, A-4, A-1	0	15-60	25-60	20-60	15-60
	5-7	*Extremely channery silt loam, Very channery silt loam, extremely channery loam	*GC-GM, GP-GM, GC	*A-2, A-4, A-1	0	20-30	20-50	15-50	15-50
	7-17	*Bedrock	---	---	---	---	---	---	---
75F: Weikert-----	0-4	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	8-20	60-85	55-80	50-80
	4-14	*Very channery silt loam, Very channery loam	*GC-GM, GC, GM	*A-4, A-1	0	15-25	35-60	35-60	25-60
	14-17	*Extremely channery silt loam, Extremely channery loam	*GC-GM, GC, GP-GM	*A-2, A-1	0	35-45	20-45	15-40	15-40
	17-27	*Bedrock	---	---	---	---	---	---	---

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments			Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	Pct	4	10	40
	In				Pct	Pct				
75F:										
Berks-----	0-3	*Channery silt loam	*CL-ML, CL, GM	*A-4,	0	15-25	65-85	65-85	60-85	
	3-9	*Channery silt loam, Very channery silt loam, channery loam	*CL-ML, CL, GM	*A-4, A-2	0	15-65	45-85	40-85	35-85	
	9-27	*Very channery silt loam, Very channery loam, extremely channery silt loam	*GC-GM, GC, GM	*A-4, A-1	0	15-25	30-65	25-60	120-60	
	27-30	*Extremely channery silt loam, Very channery silt loam, very channery loam	*GC-GM, CL, GM	*A-2, A-1, A-4	0	25-45	25-65	20-65	120-65	
	30-40	*Bedrock	---	---	---	---	---	---	---	
Rough-----	0-2	*Very channery silt loam	*GC-GM, GM, GC	*A-4, A-1	0	15-25	35-60	35-60	30-60	
	2-5	*Very channery silt loam, Extremely channery silt loam, extremely channery loam	*GC-GM, GM, GC	*A-2, A-4, A-1	0	15-60	25-60	20-60	15-60	
	5-7	*Extremely channery silt loam, Very channery silt loam, extremely channery loam	*GC-GM, GP-GM, GC	*A-2, A-4, A-1	0	20-30	20-50	15-50	15-50	
	7-17	*Bedrock	---	---	---	---	---	---	---	

Table 15.—Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
76G: Weikert-----										
	0-4	*Channery silt loam	*CL-ML, CL, GM	*A-4,		0	8-20	60-85	55-80	150-80
	4-14	*Very channery silt loam, Very channery loam	*GC-GM, GC, GM	*A-4, A-1		0	15-25	35-60	35-60	125-60
	14-17	*Extremely channery silt loam, Extremely channery loam	*GC-GM, GC, GP-GM	*A-2, A-1		0	35-45	20-45	15-40	115-40
	17-27	*Bedrock	---	---	---	---	---	---	---	---
Rough-----	0-2	*Very channery silt loam	*GC-GM, GM, GC	*A-4, A-1		0	15-25	35-60	35-60	130-60
	2-5	*Very channery silt loam, Extremely channery silt loam, extremely channery loam	*GC-GM, GM, GC	*A-2, A-4, A-1		0	15-60	25-60	20-60	115-60
	5-7	*Extremely channery silt loam, Very channery silt loam, extremely channery loam	*GC-GM, GP-GM, GC	*A-2, A-4, A-1		0	20-30	20-50	15-50	115-50
	7-17	*Bedrock	---	---	---	---	---	---	---	---
Rock outcrop.										
77C: Wintergreen-----	0-7	*Loam	*CL, SC-SM, CL-ML	*A-6, A-4		0	0-5	90-100	80-100	70-95
	7-62	*Clay, Gravelly clay, very cobbly sandy clay, clay loam	*CH, SC, CL	*A-7, A-2		0	0-45	70-100	50-100	40-100

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
77D: Wintergreen-----	0-7	*Loam	*CL, SC-SM, CL-ML	*A-6, A-4	0	0-5	90-100	80-100	70-95	
	7-62	*Clay, Gravelly clay, very cobbly sandy clay, clay loam	*CH, SC, CL	*A-7, A-2	0	0-45	70-100	50-100	40-100	
77E: Wintergreen-----	0-7	*Loam	*CL, SC-SM, CL-ML	*A-6, A-4	0	0-5	90-100	80-100	70-95	
	7-62	*Clay, Gravelly clay, very cobbly sandy clay, clay loam	*CH, SC, CL	*A-7, A-2	0	0-45	70-100	50-100	40-100	
78E: Wintergreen, very stony-----	0-7	*Loam	*CL, SC-SM, CL-ML	*A-6, A-4	0	0-5	90-100	80-100	70-95	
	7-62	*Clay, Gravelly clay, very cobbly sandy clay, clay loam	*CH, SC, CL	*A-7, A-2	0	0-45	70-100	50-100	40-100	
79A: Wolfgap-----	0-22	*Loam	*CL-ML, CL	*A-4,	0	0-5	85-100	80-100	70-95	
	22-52	*Loam, Silt loam, clay loam, sandy clay loam	*CL, SC-SM	*A-4, A-6, A-2	0	0-5	85-100	80-100	65-100	
	52-65	*Gravelly sandy loam, Very cobbly loam, very gravelly fine sandy loam	*SC-SM, SC, CL, CL-ML, GW-GM	*A-2, A-1, A-4	0	0-25	55-85	35-75	125-75	

Table 15.-Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
80A:										
Wolfgap-----	0-22	*Loam	*CL-ML, CL	*A-4,	0	0-5	85-100	80-100	70-95	
	22-52	*Loam, Silt loam, clay loam, sandy clay loam	*CL, SC-SM	*A-4, A-6, A-2	0	0-5	85-100	80-100	65-100	
	52-65	*Gravelly sandy loam, Very cobbly loam, very gravelly fine sandy loam	*SC-SM, SC, CL, CL-ML, GW-GM	*A-2, A-1, A-4	0	0-25	55-85	35-75	125-75	
Derroc-----	0-3	*Very cobbly sandy loam	*SM, GM, SC-SM	*A-2, A-1	0-10	25-45	45-75	45-75	30-65	
	3-9	*Cobbly sandy loam, Very cobbly sandy loam, gravelly loam	*SM, GM, SC-SM	*A-4, A-1	0-10	15-45	45-95	45-95	30-80	
	9-33	*Very cobbly sandy loam, Very cobbly loam, gravelly loam, extremely cobbly sandy loam	*SM, GW-GM, SC-SM	*A-2, A-1	0-10	15-45	35-80	30-80	120-65	
	33-63	*Very cobbly loamy sand, Very cobbly sandy loam, gravelly sandy loam, very stony loamy sand	*SM, GP-GM	*A-1, A-2	0-20	15-45	35-80	30-80	120-60	
Urban land.										
W.										
Water.										



Table 16.-Physical Soil Properties, Part I

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth		Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
	In	Pct	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct
1A: Alonzville, rarely flooded-----	0-5	30-42-	50	30-37-	50	1.45-1.65	4.00-14.00	0.15-0.21	0.0-2.9
	5-15	15-42-	75	10-37-	70	1.45-1.65	4.00-14.00	0.13-0.22	0.0-2.9
	15-55	10-34-	50	25-37-	70	1.45-1.70	4.00-14.00	0.10-0.22	0.0-2.9
	55-65	25-41-	70	10-37-	45	1.45-1.70	4.00-14.00	0.07-0.19	0.0-2.9
2B: Alonzville-----	0-5	30-42-	50	30-37-	50	1.45-1.65	4.00-14.00	0.15-0.21	0.0-2.9
	5-15	15-42-	75	10-37-	70	1.45-1.65	4.00-14.00	0.13-0.22	0.0-2.9
	15-55	10-34-	50	25-37-	70	1.45-1.70	4.00-14.00	0.10-0.22	0.0-2.9
	55-65	25-41-	70	10-37-	45	1.45-1.70	4.00-14.00	0.07-0.19	0.0-2.9
3B: Alonzville-----	0-5	30-42-	50	30-37-	50	1.45-1.65	4.00-14.00	0.15-0.21	0.0-2.9
	5-15	15-42-	75	10-37-	70	1.45-1.65	4.00-14.00	0.13-0.22	0.0-2.9
	15-55	10-34-	50	25-37-	70	1.45-1.70	4.00-14.00	0.10-0.22	0.0-2.9
	55-65	25-41-	70	10-37-	45	1.45-1.70	4.00-14.00	0.07-0.19	0.0-2.9
Urban land.									
4C: Berks-----	0-3	10-30-	35	50-55-	70	1.20-1.50	4.00-42.00	0.14-0.19	0.0-2.9
	3-9	10-27-	35	35-54-	70	1.20-1.60	4.00-42.00	0.08-0.19	0.0-2.9
	9-27	10-27-	35	35-54-	70	1.20-1.60	4.00-42.00	0.05-0.13	0.0-2.9
	27-30	10-27-	45	35-54-	70	1.20-1.60	14.00-42.00	0.04-0.14	0.0-2.9
	30-40	---	---	---	---	---	1.40-42.00	---	---

Table 16.--Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth		Sand		Silt		Clay		Moist bulk density		Saturated hydraulic conductivity		Available water capacity		Linear extensi- bility	
	<u>In</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>g/cc</u>	<u>um/sec</u>	<u>In/in</u>	<u>Pct</u>					
4C: Weikert-----																
	0-4	15-30-	35	50-55-	70	10-15-	25	1.20-1.40	14.00-42.00	0.12-0.18	0.0-2.9					
	4-14	15-27-	35	40-54-	70	10-20-	25	1.20-1.40	14.00-42.00	0.07-0.11	0.0-2.9					
	14-17	15-27-	40	35-54-	70	10-20-	25	1.20-1.60	14.00-42.00	0.03-0.09	0.0-2.9					
	17-27	---	---	---	---	---	---	---	1.40-42.00	---	---					
5A: Botetourt-----																
	0-7	25-43-	50	30-40-	50	7-17-	27	1.35-1.60	4.00-14.00	0.16-0.21	0.0-2.9					
	7-44	25-34-	65	10-38-	50	18-28-	35	1.45-1.70	4.00-14.00	0.09-0.19	0.0-2.9					
	44-53	25-39-	65	10-37-	50	18-25-	35	1.45-1.70	4.00-14.00	0.09-0.19	0.0-2.9					
	53-65	25-57-	75	5-18-	50	18-25-	35	1.45-1.70	4.00-14.00	0.07-0.19	0.0-2.9					
6A: Botetourt-----																
	0-7	25-43-	50	30-40-	50	7-17-	27	1.35-1.60	4.00-14.00	0.16-0.21	0.0-2.9					
	7-44	25-34-	65	10-38-	50	18-28-	35	1.45-1.70	4.00-14.00	0.09-0.19	0.0-2.9					
	44-53	25-39-	65	10-37-	50	18-25-	35	1.45-1.70	4.00-14.00	0.09-0.19	0.0-2.9					
	53-65	25-57-	75	5-18-	50	18-25-	35	1.45-1.70	4.00-14.00	0.07-0.19	0.0-2.9					
Urban land.																
7A: Buckton-----																
	0-7	2-11-	35	50-69-	85	15-20-	27	1.30-1.40	4.00-14.00	0.21-0.24	0.0-2.9					
	7-48	2-7-	30	47-68-	80	18-25-	35	1.30-1.50	4.00-14.00	0.14-0.22	0.0-2.9					
	48-73	2-94-	95	1-1-	80	2-5-	35	1.30-1.50	4.00-42.00	0.03-0.22	0.0-2.9					
Weaver-----																
	0-10	2-27-	30	50-54-	80	15-20-	27	1.30-1.40	4.00-14.00	0.18-0.24	0.0-2.9					
	10-49	2-21-	30	45-55-	80	18-25-	35	1.30-1.50	4.00-14.00	0.13-0.22	0.0-2.9					
	49-60	2-17-	50	20-53-	80	5-30-	35	1.30-1.50	4.00-14.00	0.07-0.22	0.0-2.9					

Table 16.--Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct
8F: Caneyville-----	0-3	5-25-30	50-55-75	10-20-25	1.25-1.35	4.00-14.00	0.18-0.24	0.0-2.9
	3-6	5-20-45	35-58-75	10-22-25	1.45-1.55	4.00-14.00	0.16-0.22	0.0-2.9
	6-12	2-15-30	10-47-60	35-38-60	1.35-1.55	1.40-4.00	0.09-0.15	3.0-5.9
	12-25	2-10-30	5-35-60	40-55-60	1.25-1.50	1.40-4.00	0.09-0.14	3.0-5.9
	25-35	---	---	---	---	0.00-1.40	---	---
Frederick-----	0-9	5-26-30	50-53-75	15-21-27	1.20-1.40	14.00-42.00	0.15-0.24	0.0-2.9
	9-16	5-18-40	10-44-55	35-38-60	1.25-1.60	4.00-14.00	0.09-0.15	3.0-5.9
	16-41	2-12-30	10-30-55	40-58-60	1.25-1.60	4.00-14.00	0.09-0.14	3.0-5.9
	41-74	2-10-30	5-30-55	40-60-80	1.25-1.60	4.00-14.00	0.09-0.14	3.0-5.9
Rock outcrop.								
9C: Carbo, very rocky----	0-3	5-8-20	40-57-70	27-35-40	1.20-1.40	4.00-14.00	0.13-0.15	3.0-5.9
	3-25	5-8-30	5-22-35	60-70-80	1.30-1.45	0.42-1.40	0.09-0.12	6.0-8.9
	25-35	---	---	---	---	0.00-4.00	---	---
Opequon, very rocky-----	0-2	2-10-20	40-54-70	27-36-40	1.30-1.40	1.40-14.00	0.11-0.15	6.0-8.9
	2-14	2-10-30	5-25-70	35-65-75	1.25-1.55	1.40-14.00	0.07-0.15	6.0-8.9
	14-24	---	---	---	---	0.00-4.00	---	---
9E: Carbo, very rocky----	0-3	5-8-20	40-57-70	27-35-40	1.20-1.40	4.00-14.00	0.13-0.15	3.0-5.9
	3-25	5-8-30	5-22-35	60-70-80	1.30-1.45	0.42-1.40	0.09-0.12	6.0-8.9
	25-35	---	---	---	---	0.00-4.00	---	---
Opequon, very rocky-----	0-2	2-10-20	40-54-70	27-36-40	1.30-1.40	1.40-14.00	0.11-0.15	6.0-8.9
	2-14	2-10-30	5-25-70	35-65-75	1.25-1.55	1.40-14.00	0.07-0.15	6.0-8.9
	14-24	---	---	---	---	0.00-4.00	---	---

Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand		Silt		Clay		Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
		In	Pct	Pct	Pct	Pct	Pct				
10F:											
Carbo-----	0-3	5-8	20	40-57-	70	27-35-	40	1.20-1.40	4.00-14.00	0.13-0.15	3.0-5.9
	3-25	5-8	30	5-22-	35	60-70-	80	1.30-1.45	0.42-1.40	0.09-0.12	6.0-8.9
	25-35	---	---	---	---	---	---	---	0.00-4.00	---	---
Opequon-----	0-2	2-10-	20	40-54-	70	27-36-	40	1.30-1.40	1.40-14.00	0.11-0.15	6.0-8.9
	2-14	2-10-	30	5-25-	70	35-65-	75	1.25-1.55	1.40-14.00	0.07-0.15	6.0-8.9
	14-24	---	---	---	---	---	---	---	0.00-4.00	---	---
Rock outcrop.											
11B:											
Cottonbend-----	0-11	25-45-	50	30-40-	50	10-15-	25	1.35-1.50	4.00-14.00	0.14-0.21	0.0-2.9
	11-20	25-45-	65	15-40-	50	10-15-	27	1.40-1.55	4.00-14.00	0.09-0.19	0.0-2.9
	20-27	10-40-	65	15-37-	60	18-23-	35	1.40-1.55	4.00-14.00	0.07-0.19	0.0-2.9
	27-43	10-40-	65	15-37-	60	18-23-	35	1.40-1.55	4.00-14.00	0.07-0.19	0.0-2.9
	43-54	10-35-	65	15-33-	60	18-32-	35	1.40-1.55	4.00-14.00	0.05-0.19	0.0-2.9
	54-68	10-40-	65	15-30-	50	20-30-	50	1.40-1.60	4.00-14.00	0.05-0.13	0.0-2.9
11C:											
Cottonbend-----	0-11	25-45-	50	30-40-	50	10-15-	25	1.35-1.50	4.00-14.00	0.14-0.21	0.0-2.9
	11-20	25-45-	65	15-40-	50	10-15-	27	1.40-1.55	4.00-14.00	0.09-0.19	0.0-2.9
	20-27	10-40-	65	15-37-	60	18-23-	35	1.40-1.55	4.00-14.00	0.07-0.19	0.0-2.9
	27-43	10-40-	65	15-37-	60	18-23-	35	1.40-1.55	4.00-14.00	0.07-0.19	0.0-2.9
	43-54	10-35-	65	15-33-	60	18-32-	35	1.40-1.55	4.00-14.00	0.05-0.19	0.0-2.9
	54-68	10-40-	65	15-30-	50	20-30-	50	1.40-1.60	4.00-14.00	0.05-0.13	0.0-2.9
12A:											
Coursey, rarely flooded-----	0-17	25-43-	50	30-40-	50	7-17-	27	1.35-1.60	4.00-14.00	0.15-0.21	0.0-2.9
	17-28	25-39-	65	10-37-	50	18-25-	35	1.50-1.70	4.00-14.00	0.07-0.19	0.0-2.9
	28-58	25-34-	65	10-37-	50	18-30-	35	1.50-1.70	4.00-14.00	0.07-0.19	0.0-2.9
	58-63	25-60-	65	10-18-	50	18-22-	35	1.50-1.70	4.00-14.00	0.07-0.19	0.0-2.9

Table 16.--Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth		Sand		Silt		Clay		Moist bulk density		Saturated hydraulic conductivity		Available water capacity		Linear extensi- bility	
	In	Pct	Pct	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	In/in	Pct				
13B: Coursey-----																
	0-17	25-43-	50	30-40-	50	7-17-	27	1.35-1.60	4.00-14.00	0.15-0.21			0.0-2.9			
	17-28	25-39-	65	10-37-	50	18-25-	35	1.50-1.70	4.00-14.00	0.07-0.19			0.0-2.9			
	28-58	25-34-	65	10-37-	50	18-30-	35	1.50-1.70	4.00-14.00	0.07-0.19			0.0-2.9			
	58-63	25-60-	65	10-18-	50	18-22-	35	1.50-1.70	4.00-14.00	0.07-0.19			0.0-2.9			
14C: Dekalb, very stony----																
	0-2	50-66-	80	10-19-	35	8-15-	18	1.40-1.55	42.00-141.00	0.11-0.15			0.0-2.9			
	2-12	30-66-	80	10-19-	40	8-15-	18	1.40-1.55	42.00-141.00	0.06-0.17			0.0-2.9			
	12-22	30-66-	80	10-19-	40	8-15-	18	1.40-1.55	42.00-141.00	0.06-0.13			0.0-2.9			
	22-32	50-80-	85	5-15-	35	2-5-	16	1.40-1.55	42.00-141.00	0.02-0.09			0.0-2.9			
	32-42	---	---	---	---	---	---	---	0.00-1.40	---			---			
Lehew, very stony----																
	0-4	50-67-	80	10-23-	35	5-10-	15	1.20-1.40	14.00-141.00	0.06-0.11			0.0-2.9			
	4-24	30-65-	80	10-20-	50	5-15-	18	1.20-1.40	14.00-141.00	0.03-0.16			0.0-2.9			
	24-37	30-65-	90	10-20-	50	5-15-	18	1.20-1.40	14.00-141.00	0.02-0.13			0.0-2.9			
	37-47	---	---	---	---	---	---	---	0.00-1.40	---			---			
Berks, very stony----																
	0-3	10-30-	35	50-55-	70	10-15-	25	1.20-1.50	4.00-42.00	0.14-0.19			0.0-2.9			
	3-9	10-27-	35	35-54-	70	10-20-	25	1.20-1.60	4.00-42.00	0.08-0.19			0.0-2.9			
	9-27	10-27-	35	35-54-	70	10-20-	25	1.20-1.60	4.00-42.00	0.05-0.13			0.0-2.9			
	27-30	10-27-	45	35-54-	70	10-20-	25	1.20-1.60	14.00-42.00	0.04-0.14			0.0-2.9			
	30-40	---	---	---	---	---	---	---	1.40-42.00	---			---			
14E: Dekalb, very stony----																
	0-2	50-66-	80	10-19-	35	8-15-	18	1.40-1.55	42.00-141.00	0.11-0.15			0.0-2.9			
	2-12	30-66-	80	10-19-	40	8-15-	18	1.40-1.55	42.00-141.00	0.06-0.17			0.0-2.9			
	12-22	30-66-	80	10-19-	40	8-15-	18	1.40-1.55	42.00-141.00	0.06-0.13			0.0-2.9			
	22-32	50-80-	85	5-15-	35	2-5-	16	1.40-1.55	42.00-141.00	0.02-0.09			0.0-2.9			
	32-42	---	---	---	---	---	---	---	0.00-1.40	---			---			

Table 16.—Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth		Sand		Silt		Clay		Moist bulk density		Saturated hydraulic conductivity		Available water capacity		Linear extensi- bility	
	<u>In</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>g/cc</u>	<u>um/sec</u>	<u>In/in</u>	<u>Pct</u>					
14E:																
Lehew, very stony----	0-4	50-67-	80	10-23-	35	5-10-	15	1.20-1.40	14.00-141.00	0.06-0.11	0.0-2.9					
	4-24	30-65-	80	10-20-	50	5-15-	18	1.20-1.40	14.00-141.00	0.03-0.16	0.0-2.9					
	24-37	30-65-	90	10-20-	50	5-15-	18	1.20-1.40	14.00-141.00	0.02-0.13	0.0-2.9					
	37-47	---	---	---	---	---	---	---	0.00-1.40	---	---					
Berks, very stony----	0-3	10-30-	35	50-55-	70	10-15-	25	1.20-1.50	4.00-42.00	0.14-0.19	0.0-2.9					
	3-9	10-27-	35	35-54-	70	10-20-	25	1.20-1.60	4.00-42.00	0.08-0.19	0.0-2.9					
	9-27	10-27-	35	35-54-	70	10-20-	25	1.20-1.60	4.00-42.00	0.05-0.13	0.0-2.9					
	27-30	10-27-	45	35-54-	70	10-20-	25	1.20-1.60	14.00-42.00	0.04-0.14	0.0-2.9					
	30-40	---	---	---	---	---	---	---	1.40-42.00	---	---					
14F:																
Dekalb, very stony----	0-2	50-66-	80	10-19-	35	8-15-	18	1.40-1.55	42.00-141.00	0.11-0.15	0.0-2.9					
	2-12	30-66-	80	10-19-	40	8-15-	18	1.40-1.55	42.00-141.00	0.06-0.17	0.0-2.9					
	12-22	30-66-	80	10-19-	40	8-15-	18	1.40-1.55	42.00-141.00	0.06-0.13	0.0-2.9					
	22-32	50-80-	85	5-15-	35	2-5-	16	1.40-1.55	42.00-141.00	0.02-0.09	0.0-2.9					
	32-42	---	---	---	---	---	---	---	0.00-1.40	---	---					
Lehew, very stony----	0-4	50-67-	80	10-23-	35	5-10-	15	1.20-1.40	14.00-141.00	0.06-0.11	0.0-2.9					
	4-24	30-65-	80	10-20-	50	5-15-	18	1.20-1.40	14.00-141.00	0.03-0.16	0.0-2.9					
	24-37	30-65-	90	10-20-	50	5-15-	18	1.20-1.40	14.00-141.00	0.02-0.13	0.0-2.9					
	37-47	---	---	---	---	---	---	---	0.00-1.40	---	---					
Berks, very stony----	0-3	10-30-	35	50-55-	70	10-15-	25	1.20-1.50	4.00-42.00	0.14-0.19	0.0-2.9					
	3-9	10-27-	35	35-54-	70	10-20-	25	1.20-1.60	4.00-42.00	0.08-0.19	0.0-2.9					
	9-27	10-27-	35	35-54-	70	10-20-	25	1.20-1.60	4.00-42.00	0.05-0.13	0.0-2.9					
	27-30	10-27-	45	35-54-	70	10-20-	25	1.20-1.60	14.00-42.00	0.04-0.14	0.0-2.9					
	30-40	---	---	---	---	---	---	---	1.40-42.00	---	---					

Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	
	<u>In</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>g/cc</u>	<u>um/sec</u>	<u>In/in</u>	<u>Pct</u>	
15E: Dekalb, extremely stony-----	0-2	50-66-	80	10-19- 35	8-15- 18	1.40-1.55	42.00-141.00	0.11-0.15	0.0-2.9
	2-12	30-66-	80	10-19- 40	8-15- 18	1.40-1.55	42.00-141.00	0.06-0.17	0.0-2.9
	12-22	30-66-	80	10-19- 40	8-15- 18	1.40-1.55	42.00-141.00	0.06-0.13	0.0-2.9
	22-32	50-80-	85	5-15- 35	2- 5- 16	1.40-1.55	42.00-141.00	0.02-0.09	0.0-2.9
	32-42	---	---	---	---	0.00-1.40	---	---	---
Lehew, extremely stony-----	0-4	50-67-	80	10-23- 35	5-10- 15	1.20-1.40	14.00-141.00	0.06-0.11	0.0-2.9
	4-24	30-65-	80	10-20- 50	5-15- 18	1.20-1.40	14.00-141.00	0.03-0.16	0.0-2.9
	24-37	30-65-	90	10-20- 50	5-15- 18	1.20-1.40	14.00-141.00	0.02-0.13	0.0-2.9
	37-47	---	---	---	---	0.00-1.40	---	---	---
Rock outcrop.									
15F: Dekalb, extremely stony-----	0-2	50-66-	80	10-19- 35	8-15- 18	1.40-1.55	42.00-141.00	0.11-0.15	0.0-2.9
	2-12	30-66-	80	10-19- 40	8-15- 18	1.40-1.55	42.00-141.00	0.06-0.17	0.0-2.9
	12-22	30-66-	80	10-19- 40	8-15- 18	1.40-1.55	42.00-141.00	0.06-0.13	0.0-2.9
	22-32	50-80-	85	5-15- 35	2- 5- 16	1.40-1.55	42.00-141.00	0.02-0.09	0.0-2.9
	32-42	---	---	---	---	0.00-1.40	---	---	---
Lehew, extremely stony-----	0-4	50-67-	80	10-23- 35	5-10- 15	1.20-1.40	14.00-141.00	0.06-0.11	0.0-2.9
	4-24	30-65-	80	10-20- 50	5-15- 18	1.20-1.40	14.00-141.00	0.03-0.16	0.0-2.9
	24-37	30-65-	90	10-20- 50	5-15- 18	1.20-1.40	14.00-141.00	0.02-0.13	0.0-2.9
	37-47	---	---	---	---	0.00-1.40	---	---	---
Rock outcrop.									

Table 16.--Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand		Silt		Clay		Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
		In	Pct	In	Pct	In	Pct				
16C: Dekalb, very stony---											
	0-2	50-66-	80	10-19-	35	8-15-	18	1.40-1.55	42.00-141.00	0.11-0.15	0.0-2.9
	2-12	30-66-	80	10-19-	40	8-15-	18	1.40-1.55	42.00-141.00	0.06-0.17	0.0-2.9
	12-22	30-66-	80	10-19-	40	8-15-	18	1.40-1.55	42.00-141.00	0.06-0.13	0.0-2.9
	22-32	50-80-	85	5-15-	35	2-5-	16	1.40-1.55	42.00-141.00	0.02-0.09	0.0-2.9
	32-42	---	---	---	---	---	---	---	0.00-1.40	---	---
Lily, very stony-----											
	0-3	50-66-	80	10-19-	40	8-15-	20	1.20-1.40	4.00-42.00	0.10-0.12	0.0-2.9
	3-17	35-43-	80	10-39-	45	8-18-	20	1.25-1.35	14.00-42.00	0.07-0.17	0.0-2.9
	17-32	25-34-	75	10-37-	45	18-30-	35	1.25-1.35	14.00-42.00	0.07-0.17	0.0-2.9
	32-42	---	---	---	---	---	---	---	0.00-4.00	---	---
16E: Dekalb, very stony---											
	0-2	50-66-	80	10-19-	35	8-15-	18	1.40-1.55	42.00-141.00	0.11-0.15	0.0-2.9
	2-12	30-66-	80	10-19-	40	8-15-	18	1.40-1.55	42.00-141.00	0.06-0.17	0.0-2.9
	12-22	30-66-	80	10-19-	40	8-15-	18	1.40-1.55	42.00-141.00	0.06-0.13	0.0-2.9
	22-32	50-80-	85	5-15-	35	2-5-	16	1.40-1.55	42.00-141.00	0.02-0.09	0.0-2.9
	32-42	---	---	---	---	---	---	---	0.00-1.40	---	---
Lily, very stony-----											
	0-3	50-66-	80	10-19-	40	8-15-	20	1.20-1.40	4.00-42.00	0.10-0.12	0.0-2.9
	3-17	35-43-	80	10-39-	45	8-18-	20	1.25-1.35	14.00-42.00	0.07-0.17	0.0-2.9
	17-32	25-34-	75	10-37-	45	18-30-	35	1.25-1.35	14.00-42.00	0.07-0.17	0.0-2.9
	32-42	---	---	---	---	---	---	---	0.00-4.00	---	---
17F: Dekalb, very stony---											
	0-2	50-66-	80	10-19-	35	8-15-	18	1.40-1.55	42.00-141.00	0.11-0.15	0.0-2.9
	2-12	30-66-	80	10-19-	40	8-15-	18	1.40-1.55	42.00-141.00	0.06-0.17	0.0-2.9
	12-22	30-66-	80	10-19-	40	8-15-	18	1.40-1.55	42.00-141.00	0.06-0.13	0.0-2.9
	22-32	50-80-	85	5-15-	35	2-5-	16	1.40-1.55	42.00-141.00	0.02-0.09	0.0-2.9
	32-42	---	---	---	---	---	---	---	0.00-1.40	---	---



Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth		Sand		Silt		Clay		Moist bulk density		Saturated hydraulic conductivity		Available water capacity		Linear extensi- bility	
	In	Pct	Pct	Pct	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct	In/in	Pct	Pct	Pct
17F: Lily, very stony-----	0-3	50-66-	80	10-19-	40	8-15-	20	1.20-1.40	4.00-42.00	0.10-0.12	0.0-2.9					
	3-17	35-43-	80	10-39-	45	8-18-	20	1.25-1.35	14.00-42.00	0.07-0.17	0.0-2.9					
	17-32	25-34-	75	10-37-	45	18-30-	35	1.25-1.35	14.00-42.00	0.07-0.17	0.0-2.9					
	32-42	---	---	---	---	---	---	---	0.00-4.00	---	---					
18A: Derroc-----	0-3	55-67-	75	10-23-	40	5-10-	15	1.40-1.65	14.00-141.00	0.06-0.12	0.0-2.9					
	3-9	35-67-	75	10-23-	50	5-10-	15	1.40-1.65	14.00-141.00	0.06-0.18	0.0-2.9					
	9-33	35-67-	75	10-23-	50	5-10-	15	1.55-1.70	14.00-141.00	0.04-0.15	0.0-2.9					
	33-63	55-83-	85	5-10-	40	5-7-	10	1.55-1.70	42.00-141.00	0.03-0.10	0.0-2.9					
19C: Edneytown-----	0-4	35-46-	50	35-44-	50	7-10-	15	1.40-1.60	14.00-42.00	0.14-0.19	0.0-2.9					
	4-8	35-46-	80	5-44-	50	5-10-	15	1.30-1.40	4.00-14.00	0.07-0.19	0.0-2.9					
	8-36	20-57-	70	5-18-	50	18-25-	35	1.30-1.50	4.00-14.00	0.07-0.13	0.0-2.9					
	36-64	50-68-	85	2-20-	40	5-12-	15	1.30-1.50	14.00-42.00	0.05-0.19	0.0-2.9					
	64-74	---	---	---	---	---	---	---	0.00-14.00	---	---					
19D: Edneytown-----	0-4	35-46-	50	35-44-	50	7-10-	15	1.40-1.60	14.00-42.00	0.14-0.19	0.0-2.9					
	4-8	35-46-	80	5-44-	50	5-10-	15	1.30-1.40	4.00-14.00	0.07-0.19	0.0-2.9					
	8-36	20-57-	70	5-18-	50	18-25-	35	1.30-1.50	4.00-14.00	0.07-0.13	0.0-2.9					
	36-64	50-68-	85	2-20-	40	5-12-	15	1.30-1.50	14.00-42.00	0.05-0.19	0.0-2.9					
	64-74	---	---	---	---	---	---	---	0.00-14.00	---	---					
20C: Edneytown, very stony-----	0-4	35-46-	50	35-44-	50	7-10-	15	1.40-1.60	14.00-42.00	0.14-0.19	0.0-2.9					
	4-8	35-46-	80	5-44-	50	5-10-	15	1.30-1.40	4.00-14.00	0.07-0.19	0.0-2.9					
	8-36	20-57-	70	5-18-	50	18-25-	35	1.30-1.50	4.00-14.00	0.07-0.13	0.0-2.9					
	36-64	50-68-	85	2-20-	40	5-12-	15	1.30-1.50	14.00-42.00	0.05-0.19	0.0-2.9					
	64-74	---	---	---	---	---	---	---	0.00-14.00	---	---					

Table 16.—Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth		Sand		Silt		Clay		Moist bulk density		Saturated hydraulic conductivity		Available water capacity		Linear extensi- bility	
	<u>In</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>g/cc</u>	<u>um/sec</u>	<u>In/in</u>	<u>Pct</u>					
20C: Peaks, very stony----	0-6	55-67-	75	15-23-	45	7-10-	16	1.20-1.40	42.00-141.00	0.07-0.10	0.0-2.9					
	6-23	30-68-	75	15-20-	50	5-12-	18	1.20-1.40	42.00-141.00	0.03-0.10	0.0-2.9					
	23-29	---	---	---	---	---	---	---	0.00-0.42	---	---					
	29-39	---	---	---	---	---	---	---	0.00-0.42	---	---					
	64-74	---	---	---	---	---	---	---	0.00-14.00	---	---					
20E: Edneytown, very stony-----	0-4	35-46-	50	35-44-	50	7-10-	15	1.40-1.60	14.00-42.00	0.14-0.19	0.0-2.9					
	4-8	35-46-	80	5-44-	50	5-10-	15	1.30-1.40	4.00-14.00	0.07-0.19	0.0-2.9					
	8-36	20-57-	70	5-18-	50	18-25-	35	1.30-1.50	4.00-14.00	0.07-0.13	0.0-2.9					
	36-64	50-68-	85	2-20-	40	5-12-	15	1.30-1.50	14.00-42.00	0.05-0.19	0.0-2.9					
	64-74	---	---	---	---	---	---	---	0.00-14.00	---	---					
Peaks, very stony----	0-6	55-67-	75	15-23-	45	7-10-	16	1.20-1.40	42.00-141.00	0.07-0.10	0.0-2.9					
	6-23	30-68-	75	15-20-	50	5-12-	18	1.20-1.40	42.00-141.00	0.03-0.10	0.0-2.9					
	23-29	---	---	---	---	---	---	---	0.00-0.42	---	---					
	29-39	---	---	---	---	---	---	---	0.00-0.42	---	---					
	64-74	---	---	---	---	---	---	---	0.00-14.00	---	---					
20F: Edneytown, very stony-----	0-4	35-46-	50	35-44-	50	7-10-	15	1.40-1.60	14.00-42.00	0.14-0.19	0.0-2.9					
	4-8	35-46-	80	5-44-	50	5-10-	15	1.30-1.40	4.00-14.00	0.07-0.19	0.0-2.9					
	8-36	20-57-	70	5-18-	50	18-25-	35	1.30-1.50	4.00-14.00	0.07-0.13	0.0-2.9					
	36-64	50-68-	85	2-20-	40	5-12-	15	1.30-1.50	14.00-42.00	0.05-0.19	0.0-2.9					
	64-74	---	---	---	---	---	---	---	0.00-14.00	---	---					
Peaks, very stony----	0-6	55-67-	75	15-23-	45	7-10-	16	1.20-1.40	42.00-141.00	0.07-0.10	0.0-2.9					
	6-23	30-68-	75	15-20-	50	5-12-	18	1.20-1.40	42.00-141.00	0.03-0.10	0.0-2.9					
	23-29	---	---	---	---	---	---	---	0.00-0.42	---	---					
	29-39	---	---	---	---	---	---	---	0.00-0.42	---	---					
	64-74	---	---	---	---	---	---	---	0.00-14.00	---	---					

Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct
21B:								
Escatawba-----	0-3	25-42-	50 30-38-	50 10-20-	25 1.15-1.30	4.00-14.00	0.15-0.19	0.0-2.9
	3-17	15-42-	75 15-38-	75 10-20-	25 1.30-1.55	4.00-14.00	0.12-0.22	0.0-2.9
	17-30	15-41-	50 25-37-	60 18-22-	34 1.30-1.55	4.00-14.00	0.08-0.22	0.0-2.9
	30-50	15-33-	40 25-32-	55 35-35-	50 1.30-1.55	1.40-4.00	0.07-0.13	0.0-2.9
	50-60	15-31-	35 10-31-	45 35-38-	65 1.30-1.55	1.40-4.00	0.06-0.13	0.0-2.9
21C:								
Escatawba-----	0-3	25-42-	50 30-38-	50 10-20-	25 1.15-1.30	4.00-14.00	0.15-0.19	0.0-2.9
	3-17	15-42-	75 15-38-	75 10-20-	25 1.30-1.55	4.00-14.00	0.12-0.22	0.0-2.9
	17-30	15-41-	50 25-37-	60 18-22-	34 1.30-1.55	4.00-14.00	0.08-0.22	0.0-2.9
	30-50	15-33-	40 25-32-	55 35-35-	50 1.30-1.55	1.40-4.00	0.07-0.13	0.0-2.9
	50-60	15-31-	35 10-31-	45 35-38-	65 1.30-1.55	1.40-4.00	0.06-0.13	0.0-2.9
22B:								
Frederick-----	0-9	5-26-	30 50-53-	75 15-21-	27 1.20-1.40	14.00-42.00	0.15-0.24	0.0-2.9
	9-16	5-18-	40 10-44-	55 35-38-	60 1.25-1.60	4.00-14.00	0.09-0.15	3.0-5.9
	16-41	2-12-	30 10-30-	55 40-58-	60 1.25-1.60	4.00-14.00	0.09-0.14	3.0-5.9
	41-74	2-10-	30 5-30-	55 40-60-	80 1.25-1.60	4.00-14.00	0.09-0.14	3.0-5.9
22C:								
Frederick-----	0-9	5-26-	30 50-53-	75 15-21-	27 1.20-1.40	14.00-42.00	0.15-0.24	0.0-2.9
	9-16	5-18-	40 10-44-	55 35-38-	60 1.25-1.60	4.00-14.00	0.09-0.15	3.0-5.9
	16-41	2-12-	30 10-30-	55 40-58-	60 1.25-1.60	4.00-14.00	0.09-0.14	3.0-5.9
	41-74	2-10-	30 5-30-	55 40-60-	80 1.25-1.60	4.00-14.00	0.09-0.14	3.0-5.9
22D:								
Frederick-----	0-9	5-26-	30 50-53-	75 15-21-	27 1.20-1.40	14.00-42.00	0.15-0.24	0.0-2.9
	9-16	5-18-	40 10-44-	55 35-38-	60 1.25-1.60	4.00-14.00	0.09-0.15	3.0-5.9
	16-41	2-12-	30 10-30-	55 40-58-	60 1.25-1.60	4.00-14.00	0.09-0.14	3.0-5.9
	41-74	2-10-	30 5-30-	55 40-60-	80 1.25-1.60	4.00-14.00	0.09-0.14	3.0-5.9

Table 16.—Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand		Silt		Clay		Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
		<u>Pct</u>		<u>Pct</u>		<u>Pct</u>					
23E:											
Frederick-----	0-9	5-26-	30	50-53-	75	15-21-	27	1.20-1.40	14.00-42.00	0.15-0.24	0.0-2.9
	9-16	5-18-	40	10-44-	55	35-38-	60	1.25-1.60	4.00-14.00	0.09-0.15	3.0-5.9
	16-41	2-12-	30	10-30-	55	40-58-	60	1.25-1.60	4.00-14.00	0.09-0.14	3.0-5.9
	41-74	2-10-	30	5-30-	55	40-60-	80	1.25-1.60	4.00-14.00	0.09-0.14	3.0-5.9
Caneyville-----	0-3	5-25-	30	50-55-	75	10-20-	25	1.25-1.35	4.00-14.00	0.18-0.24	0.0-2.9
	3-6	5-20-	45	35-58-	75	10-22-	25	1.45-1.55	4.00-14.00	0.16-0.22	0.0-2.9
	6-12	2-15-	30	10-47-	60	35-38-	60	1.35-1.55	1.40-4.00	0.09-0.15	3.0-5.9
	12-25	2-10-	30	5-35-	60	40-55-	60	1.25-1.50	1.40-4.00	0.09-0.14	3.0-5.9
	25-35	---		---		---		---	0.00-1.40	---	---
24C:											
Frederick, very rocky-----	0-9	5-26-	30	50-53-	75	15-21-	27	1.20-1.40	14.00-42.00	0.15-0.24	0.0-2.9
	9-16	5-18-	40	10-44-	55	35-38-	60	1.25-1.60	4.00-14.00	0.09-0.15	3.0-5.9
	16-41	2-12-	30	10-30-	55	40-58-	60	1.25-1.60	4.00-14.00	0.09-0.14	3.0-5.9
	41-74	2-10-	30	5-30-	55	40-60-	80	1.25-1.60	4.00-14.00	0.09-0.14	3.0-5.9
Caneyville, very rocky-----	0-3	5-25-	30	50-55-	75	10-20-	25	1.25-1.35	4.00-14.00	0.18-0.24	0.0-2.9
	3-6	5-20-	45	35-58-	75	10-22-	25	1.45-1.55	4.00-14.00	0.16-0.22	0.0-2.9
	6-12	2-15-	30	10-47-	60	35-38-	60	1.35-1.55	1.40-4.00	0.09-0.15	3.0-5.9
	12-25	2-10-	30	5-35-	60	40-55-	60	1.25-1.50	1.40-4.00	0.09-0.14	3.0-5.9
	25-35	---		---		---		---	0.00-1.40	---	---
24E:											
Frederick, very rocky-----	0-9	5-26-	30	50-53-	75	15-21-	27	1.20-1.40	14.00-42.00	0.15-0.24	0.0-2.9
	9-16	5-18-	40	10-44-	55	35-38-	60	1.25-1.60	4.00-14.00	0.09-0.15	3.0-5.9
	16-41	2-12-	30	10-30-	55	40-58-	60	1.25-1.60	4.00-14.00	0.09-0.14	3.0-5.9
	41-74	2-10-	30	5-30-	55	40-60-	80	1.25-1.60	4.00-14.00	0.09-0.14	3.0-5.9

Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth		Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
	In	Pct							
				Pct	Pct	g/cc	um/sec	In/in	Pct
<b>24E:</b>									
Caneyville, very rocky-----									
	0-3	5-25-30	50-55-	75	10-20-	25	1.25-1.35	4.00-14.00	0.18-0.24
	3-6	5-20-45	35-58-	75	10-22-	25	1.45-1.55	4.00-14.00	0.16-0.22
	6-12	2-15-30	10-47-	60	35-38-	60	1.35-1.55	1.40-4.00	0.09-0.15
	12-25	2-10-30	5-35-	60	40-55-	60	1.25-1.50	1.40-4.00	0.09-0.14
	25-35	---	---	---	---	---	0.00-1.40	---	---
<b>25C:</b>									
Frederick-----									
	0-5	5-30-	35	50-52-	75	15-18-	27	1.25-1.40	14.00-42.00
	5-11	5-30-	45	30-52-	75	15-18-	27	1.45-1.55	4.00-42.00
	11-16	5-17-	40	10-45-	55	35-38-	60	1.35-1.55	4.00-14.00
	16-23	2-15-	30	10-27-	55	40-58-	60	1.25-1.50	4.00-14.00
	23-62	2-12-	30	5-28-	55	40-60-	80	1.25-1.50	4.00-14.00
<b>Watahala-----</b>									
	0-4	2-25-	40	50-60-	75	10-15-	25	1.25-1.45	14.00-42.00
	4-28	5-35-	70	15-47-	75	10-18-	25	1.20-1.50	14.00-42.00
	28-42	2-15-	50	30-55-	75	18-30-	35	1.20-1.50	4.00-14.00
	42-60	2-5-	40	5-45-	50	43-50-	75	1.20-1.40	1.40-14.00
<b>25D:</b>									
Frederick-----									
	0-5	5-30-	35	50-52-	75	15-18-	27	1.25-1.40	14.00-42.00
	5-11	5-30-	45	30-52-	75	15-18-	27	1.45-1.55	4.00-42.00
	11-16	5-17-	40	10-45-	55	35-38-	60	1.35-1.55	4.00-14.00
	16-23	2-15-	30	10-27-	55	40-58-	60	1.25-1.50	4.00-14.00
	23-62	2-12-	30	5-28-	55	40-60-	80	1.25-1.50	4.00-14.00
<b>Watahala-----</b>									
	0-4	2-25-	40	50-60-	75	10-15-	25	1.25-1.45	14.00-42.00
	4-28	5-35-	70	15-47-	75	10-18-	25	1.20-1.50	14.00-42.00
	28-42	2-15-	50	30-55-	75	18-30-	35	1.20-1.50	4.00-14.00
	42-60	2-5-	40	5-45-	50	43-50-	75	1.20-1.40	1.40-14.00

Table 16.--Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct
25E: Frederick-----	0-5	5-30-	35 50-52-	75 15-18-	27 1.25-1.40	14.00-42.00	0.10-0.19	0.0-2.9
	5-11	5-30-	45 30-52-	75 15-18-	27 1.45-1.55	4.00-42.00	0.10-0.22	0.0-2.9
	11-16	5-17-	40 10-45-	55 35-38-	60 1.35-1.55	4.00-14.00	0.09-0.15	3.0-5.9
	16-23	2-15-	30 10-27-	55 40-58-	60 1.25-1.50	4.00-14.00	0.09-0.14	3.0-5.9
	23-62	2-12-	30 5-28-	55 40-60-	80 1.25-1.50	4.00-14.00	0.09-0.14	3.0-5.9
Watahala-----	0-4	2-25-	40 50-60-	75 10-15-	25 1.25-1.45	14.00-42.00	0.10-0.17	0.0-2.9
	4-28	5-35-	70 15-47-	75 10-18-	25 1.20-1.50	14.00-42.00	0.06-0.18	0.0-2.9
	28-42	2-15-	50 30-55-	75 18-30-	35 1.20-1.50	4.00-14.00	0.03-0.18	0.0-2.9
	42-60	2-5-	40 5-45-	50 43-50-	75 1.20-1.40	1.40-14.00	0.05-0.14	3.0-5.9
26A: Gladehill-----	0-5	45-70-	80 5-22-	45 5-8-	15 1.30-1.40	14.00-42.00	0.12-0.18	0.0-2.9
	5-42	35-69-	80 5-22-	45 5-10-	18 1.45-1.60	14.00-42.00	0.10-0.19	0.0-2.9
	42-72	35-69-	80 5-22-	45 5-10-	18 1.45-1.60	14.00-42.00	0.07-0.19	0.0-2.9
27B: Groseclose-----	0-3	5-27-	40 50-54-	80 7-20-	27 1.25-1.55	14.00-42.00	0.14-0.22	0.0-2.9
	3-8	5-27-	45 35-52-	80 7-22-	27 1.25-1.55	14.00-42.00	0.07-0.22	0.0-2.9
	8-15	5-17-	30 15-48-	60 35-35-	60 1.35-1.60	4.00-14.00	0.05-0.15	3.0-5.9
	15-55	5-15-	30 15-30-	60 35-55-	60 1.35-1.60	4.00-14.00	0.03-0.15	3.0-5.9
	55-65	5-15-	35 20-43-	70 20-42-	50 1.35-1.60	1.40-4.00	0.06-0.22	3.0-5.9
27C: Groseclose-----	0-3	5-27-	40 50-54-	80 7-20-	27 1.25-1.55	14.00-42.00	0.14-0.22	0.0-2.9
	3-8	5-27-	45 35-52-	80 7-22-	27 1.25-1.55	14.00-42.00	0.07-0.22	0.0-2.9
	8-15	5-17-	30 15-48-	60 35-35-	60 1.35-1.60	4.00-14.00	0.05-0.15	3.0-5.9
	15-55	5-15-	30 15-30-	60 35-55-	60 1.35-1.60	4.00-14.00	0.03-0.15	3.0-5.9
	55-65	5-15-	35 20-43-	70 20-42-	50 1.35-1.60	1.40-4.00	0.06-0.22	3.0-5.9

Table 16.--Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct
27D: Groseclose-----	0-3	5-27- 40	50-54- 80	7-20- 27	1.25-1.55	14.00-42.00	0.14-0.22	0.0-2.9
	3-8	5-27- 45	35-52- 80	7-22- 27	1.25-1.55	14.00-42.00	0.07-0.22	0.0-2.9
	8-15	5-17- 30	15-48- 60	35-35- 60	1.35-1.60	4.00-14.00	0.05-0.15	3.0-5.9
	15-55	5-15- 30	15-30- 60	35-55- 60	1.35-1.60	4.00-14.00	0.05-0.15	3.0-5.9
	55-65	5-15- 35	20-43- 70	20-42- 50	1.35-1.60	1.40-4.00	0.06-0.22	3.0-5.9
28E: Groseclose-----	0-3	5-27- 40	50-54- 80	7-20- 27	1.25-1.55	14.00-42.00	0.14-0.22	0.0-2.9
	3-8	5-27- 45	35-52- 80	7-22- 27	1.25-1.55	14.00-42.00	0.07-0.22	0.0-2.9
	8-15	5-17- 30	15-48- 60	35-35- 60	1.35-1.60	4.00-14.00	0.05-0.15	3.0-5.9
	15-55	5-15- 30	15-30- 60	35-55- 60	1.35-1.60	4.00-14.00	0.05-0.15	3.0-5.9
	55-65	5-15- 35	20-43- 70	20-42- 50	1.35-1.60	1.40-4.00	0.06-0.22	3.0-5.9
Needmore-----	0-5	10-27- 30	50-54- 70	10-20- 25	1.15-1.30	4.00-14.00	0.19-0.22	0.0-2.9
	5-21	5-22- 30	20-28- 60	35-50- 60	1.35-1.45	1.40-4.00	0.08-0.15	3.0-5.9
	21-33	5-18- 30	20-44- 60	35-38- 60	1.35-1.45	1.40-4.00	0.08-0.15	3.0-5.9
	33-43	---	---	---	---	0.00-4.00	---	---
29C: Groseclose-----	0-3	5-27- 40	50-54- 80	7-20- 27	1.25-1.55	14.00-42.00	0.14-0.22	0.0-2.9
	3-8	5-27- 45	35-52- 80	7-22- 27	1.25-1.55	14.00-42.00	0.07-0.22	0.0-2.9
	8-15	5-17- 30	15-48- 60	35-35- 60	1.35-1.60	4.00-14.00	0.05-0.15	3.0-5.9
	15-55	5-15- 30	15-30- 60	35-55- 60	1.35-1.60	4.00-14.00	0.05-0.15	3.0-5.9
	55-65	5-15- 35	20-43- 70	20-42- 50	1.35-1.60	1.40-4.00	0.06-0.22	3.0-5.9
Needmore-----	0-5	10-27- 30	50-54- 70	10-20- 25	1.15-1.30	4.00-14.00	0.19-0.22	0.0-2.9
	5-21	5-22- 30	20-28- 60	35-50- 60	1.35-1.45	1.40-4.00	0.08-0.15	3.0-5.9
	21-33	5-18- 30	20-44- 60	35-38- 60	1.35-1.45	1.40-4.00	0.08-0.15	3.0-5.9
	33-43	---	---	---	---	0.00-4.00	---	---
Urban land.								

Table 16.--Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct
30A: Holly-----	0-4	5-27-40	50-53-75	10-20-27	1.20-1.40	4.00-14.00	0.19-0.24	0.0-2.9
	4-42	5-27-65	15-51-75	15-22-35	1.20-1.50	1.40-14.00	0.10-0.22	0.0-2.9
	42-65	5-27-75	10-53-75	5-20-40	1.20-1.45	4.00-42.00	0.09-0.22	0.0-2.9
Orrville-----	0-9	5-26-40	50-54-75	10-20-27	1.25-1.45	4.00-14.00	0.20-0.24	0.0-2.9
	9-40	5-26-65	15-52-75	15-22-35	1.30-1.50	4.00-14.00	0.10-0.22	0.0-2.9
	40-50	5-26-75	10-54-75	5-20-27	1.20-1.40	4.00-42.00	0.08-0.22	0.0-2.9
	50-65	5-44-75	10-41-75	5-15-27	1.20-1.40	4.00-42.00	0.06-0.22	0.0-2.9
31A: Ingledove-----	0-13	25-42-50	30-38-50	15-20-27	1.20-1.40	4.00-14.00	0.15-0.21	0.0-2.9
	13-52	20-39-80	5-37-50	18-25-35	1.20-1.50	4.00-14.00	0.10-0.19	0.0-2.9
	52-65	20-34-80	5-37-50	18-30-35	1.20-1.50	4.00-14.00	0.05-0.19	0.0-2.9
32A: Irongate-----	0-21	55-70-75	10-16-40	10-14-18	1.20-1.40	4.00-14.00	0.13-0.16	0.0-2.9
	21-42	35-67-75	10-19-50	10-14-18	1.20-1.40	4.00-14.00	0.10-0.19	0.0-2.9
	42-55	35-68-75	10-20-50	5-12-18	1.20-1.40	14.00-42.00	0.07-0.19	0.0-2.9
	55-62	35-67-75	10-23-50	5-10-18	1.20-1.40	14.00-42.00	0.07-0.19	0.0-2.9
33C: Litz-----	0-6	5-27-40	50-54-80	10-20-27	1.20-1.50	4.00-14.00	0.13-0.19	0.0-2.9
	6-27	5-22-40	25-55-80	10-23-35	1.20-1.50	4.00-14.00	0.02-0.13	0.0-2.9
	27-32	5-26-40	25-53-80	10-21-35	1.20-1.50	4.00-14.00	0.01-0.13	0.0-2.9
	32-38	---	---	---	---	0.42-42.00	0.00-0.00	---
	38-48	---	---	---	---	0.42-42.00	0.00-0.00	---
Chiswell-----	0-10	5-27-40	50-54-80	10-20-27	1.20-1.50	4.00-14.00	0.13-0.19	0.0-2.9
	10-17	5-22-40	35-55-80	10-23-27	1.20-1.50	4.00-14.00	0.03-0.13	0.0-2.9
	17-27	---	---	---	---	0.42-42.00	0.00-0.00	---



Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct
33C: Groseclose-----	0-3	5-27-40	50-54-80	7-20-27	1.25-1.55	14.00-42.00	0.14-0.22	0.0-2.9
	3-8	5-27-45	35-52-80	7-22-27	1.25-1.55	14.00-42.00	0.07-0.22	0.0-2.9
	8-15	5-17-30	15-48-60	35-35-60	1.35-1.60	4.00-14.00	0.05-0.15	3.0-5.9
	15-55	5-15-30	15-30-60	35-55-60	1.35-1.60	4.00-14.00	0.05-0.15	3.0-5.9
	55-65	5-15-35	20-43-70	20-42-50	1.35-1.60	1.40-4.00	0.06-0.22	3.0-5.9
33E: Litz-----	0-6	5-27-40	50-54-80	10-20-27	1.20-1.50	4.00-14.00	0.13-0.19	0.0-2.9
	6-27	5-22-40	25-55-80	10-23-35	1.20-1.50	4.00-14.00	0.02-0.13	0.0-2.9
	27-32	5-26-40	25-53-80	10-21-35	1.20-1.50	4.00-14.00	0.01-0.13	0.0-2.9
	32-38	---	---	---	---	0.42-42.00	0.00-0.00	---
	38-48	---	---	---	---	0.42-42.00	0.00-0.00	---
Chiswell-----	0-10	5-27-40	50-54-80	10-20-27	1.20-1.50	4.00-14.00	0.13-0.19	0.0-2.9
	10-17	5-22-40	35-55-80	10-23-27	1.20-1.50	4.00-14.00	0.03-0.13	0.0-2.9
	17-27	---	---	---	---	0.42-42.00	0.00-0.00	---
Groseclose-----	0-3	5-27-40	50-54-80	7-20-27	1.25-1.55	14.00-42.00	0.14-0.22	0.0-2.9
	3-8	5-27-45	35-52-80	7-22-27	1.25-1.55	14.00-42.00	0.07-0.22	0.0-2.9
	8-15	5-17-30	15-48-60	35-35-60	1.35-1.60	4.00-14.00	0.05-0.15	3.0-5.9
	15-55	5-15-30	15-30-60	35-55-60	1.35-1.60	4.00-14.00	0.05-0.15	3.0-5.9
	55-65	5-15-35	20-43-70	20-42-50	1.35-1.60	1.40-4.00	0.06-0.22	3.0-5.9
33F: Litz-----	0-6	5-27-40	50-54-80	10-20-27	1.20-1.50	4.00-14.00	0.13-0.19	0.0-2.9
	6-27	5-22-40	25-55-80	10-23-35	1.20-1.50	4.00-14.00	0.02-0.13	0.0-2.9
	27-32	5-26-40	25-53-80	10-21-35	1.20-1.50	4.00-14.00	0.01-0.13	0.0-2.9
	32-38	---	---	---	---	0.42-42.00	0.00-0.00	---
	38-48	---	---	---	---	0.42-42.00	0.00-0.00	---

Table 16.--Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct
33F: Chiswell-----	0-10	5-27- 40	50-54- 80	10-20- 27	1.20-1.50	4.00-14.00	0.13-0.19	0.0-2.9
	10-17	5-22- 40	35-55- 80	10-23- 27	1.20-1.50	4.00-14.00	0.03-0.13	0.0-2.9
	17-27	---	---	---	---	0.42-42.00	0.00-0.00	---
Groseclose-----	0-3	5-27- 40	50-54- 80	7-20- 27	1.25-1.55	14.00-42.00	0.14-0.22	0.0-2.9
	3-8	5-27- 45	35-52- 80	7-22- 27	1.25-1.55	14.00-42.00	0.07-0.22	0.0-2.9
	8-15	5-17- 30	15-48- 60	35-35- 60	1.35-1.60	4.00-14.00	0.05-0.15	3.0-5.9
	15-55	5-15- 30	15-30- 60	35-55- 60	1.35-1.60	4.00-14.00	0.05-0.15	3.0-5.9
	55-65	5-15- 35	20-43- 70	20-42- 50	1.35-1.60	1.40-4.00	0.06-0.22	3.0-5.9
34C: Litz, very stony-----	0-6	5-27- 40	50-54- 80	10-20- 27	1.20-1.50	4.00-14.00	0.13-0.19	0.0-2.9
	6-27	5-22- 40	25-55- 80	10-23- 35	1.20-1.50	4.00-14.00	0.02-0.13	0.0-2.9
	27-32	5-26- 40	25-53- 80	10-21- 35	1.20-1.50	4.00-14.00	0.01-0.13	0.0-2.9
	32-38	---	---	---	---	0.42-42.00	0.00-0.00	---
	38-48	---	---	---	---	0.42-42.00	0.00-0.00	---
Needmore, very stony-----	0-5	10-27- 30	50-54- 70	10-20- 25	1.15-1.30	4.00-14.00	0.19-0.22	0.0-2.9
	5-21	5-22- 30	20-28- 60	35-50- 60	1.35-1.45	1.40-4.00	0.08-0.15	3.0-5.9
	21-33	5-18- 30	20-44- 60	35-38- 60	1.35-1.45	1.40-4.00	0.08-0.15	3.0-5.9
	33-43	---	---	---	---	0.00-4.00	---	---
34E: Litz, very stony-----	0-6	5-27- 40	50-54- 80	10-20- 27	1.20-1.50	4.00-14.00	0.13-0.19	0.0-2.9
	6-27	5-22- 40	25-55- 80	10-23- 35	1.20-1.50	4.00-14.00	0.02-0.13	0.0-2.9
	27-32	5-26- 40	25-53- 80	10-21- 35	1.20-1.50	4.00-14.00	0.01-0.13	0.0-2.9
	32-38	---	---	---	---	0.42-42.00	0.00-0.00	---
	38-48	---	---	---	---	0.42-42.00	0.00-0.00	---

Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth		Sand		Silt		Clay		Moist bulk density		Saturated hydraulic conductivity		Available water capacity		Linear extensi- bility	
	In	Pct	Pct	Pct	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct	In/in	Pct	Pct	Pct
34E: Needmore, very stony-----	0-5	10-27-	30	50-54-	70	10-20-	25	1.15-1.30	4.00-14.00	0.19-0.22	0.0-2.9	0.0-2.9	0.19-0.22	0.0-2.9	0.0-2.9	0.0-2.9
	5-21	5-22-	30	20-28-	60	35-50-	60	1.35-1.45	1.40-4.00	0.08-0.15	3.0-5.9	3.0-5.9	0.08-0.15	3.0-5.9	3.0-5.9	3.0-5.9
	21-33	5-18-	30	20-44-	60	35-38-	60	1.35-1.45	1.40-4.00	0.08-0.15	3.0-5.9	3.0-5.9	0.08-0.15	3.0-5.9	3.0-5.9	3.0-5.9
	33-43	---	---	---	---	---	---	---	0.00-4.00	---	---	---	---	---	---	---
34F: Litz, very stony-----	0-6	5-27-	40	50-54-	80	10-20-	27	1.20-1.50	4.00-14.00	0.13-0.19	0.0-2.9	0.0-2.9	0.13-0.19	0.0-2.9	0.0-2.9	0.0-2.9
	6-27	5-22-	40	25-55-	80	10-23-	35	1.20-1.50	4.00-14.00	0.02-0.13	0.0-2.9	0.0-2.9	0.02-0.13	0.0-2.9	0.0-2.9	0.0-2.9
	27-32	5-26-	40	25-53-	80	10-21-	35	1.20-1.50	4.00-14.00	0.01-0.13	0.0-2.9	0.0-2.9	0.01-0.13	0.0-2.9	0.0-2.9	0.0-2.9
	32-38	---	---	---	---	---	---	---	0.42-42.00	0.00-0.00	---	---	0.00-0.00	---	---	---
	38-48	---	---	---	---	---	---	---	0.42-42.00	0.00-0.00	---	---	0.00-0.00	---	---	---
Needmore, very stony-----	0-5	10-27-	30	50-54-	70	10-20-	25	1.15-1.30	4.00-14.00	0.19-0.22	0.0-2.9	0.0-2.9	0.19-0.22	0.0-2.9	0.0-2.9	0.0-2.9
	5-21	5-22-	30	20-28-	60	35-50-	60	1.35-1.45	1.40-4.00	0.08-0.15	3.0-5.9	3.0-5.9	0.08-0.15	3.0-5.9	3.0-5.9	3.0-5.9
	21-33	5-18-	30	20-44-	60	35-38-	60	1.35-1.45	1.40-4.00	0.08-0.15	3.0-5.9	3.0-5.9	0.08-0.15	3.0-5.9	3.0-5.9	3.0-5.9
	33-43	---	---	---	---	---	---	---	0.00-4.00	---	---	---	---	---	---	---
35C: Lodi-----	0-7	55-75-	80	5-15-	30	5-10-	20	1.20-1.50	4.00-42.00	0.08-0.13	0.0-2.9	0.0-2.9	0.08-0.13	0.0-2.9	0.0-2.9	0.0-2.9
	7-19	35-75-	80	5-15-	30	5-10-	25	1.20-1.50	4.00-42.00	0.10-0.19	0.0-2.9	0.0-2.9	0.10-0.19	0.0-2.9	0.0-2.9	0.0-2.9
	19-31	10-15-	60	10-35-	40	30-50-	60	1.35-1.65	4.00-14.00	0.07-0.13	3.0-5.9	3.0-5.9	0.07-0.13	3.0-5.9	3.0-5.9	3.0-5.9
	31-49	10-25-	60	10-37-	40	30-38-	60	1.35-1.65	4.00-14.00	0.07-0.13	3.0-5.9	3.0-5.9	0.07-0.13	3.0-5.9	3.0-5.9	3.0-5.9
	49-67	30-45-	70	10-40-	45	10-15-	40	1.35-1.65	4.00-14.00	0.07-0.19	3.0-5.9	3.0-5.9	0.07-0.19	3.0-5.9	3.0-5.9	3.0-5.9
McClung-----	0-3	50-67-	80	5-23-	45	5-10-	20	1.25-1.50	14.00-42.00	0.10-0.13	0.0-2.9	0.0-2.9	0.10-0.13	0.0-2.9	0.0-2.9	0.0-2.9
	3-11	25-66-	80	5-19-	50	10-15-	25	1.20-1.50	4.00-42.00	0.07-0.19	0.0-2.9	0.0-2.9	0.07-0.19	0.0-2.9	0.0-2.9	0.0-2.9
	11-19	25-67-	80	5-15-	50	10-18-	27	1.30-1.60	4.00-42.00	0.07-0.19	0.0-2.9	0.0-2.9	0.07-0.19	0.0-2.9	0.0-2.9	0.0-2.9
	19-65	20-57-	75	5-18-	50	18-25-	40	1.30-1.60	4.00-14.00	0.06-0.13	0.0-2.9	0.0-2.9	0.06-0.13	0.0-2.9	0.0-2.9	0.0-2.9

Table 16.--Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth		Sand		Silt		Clay		Moist bulk density		Saturated hydraulic conductivity		Available water capacity		Linear extensi- bility	
	<u>In</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>g/cc</u>	<u>um/sec</u>	<u>In/in</u>	<u>Pct</u>					
35C: Lily-----																
	0-3	50-66-	80	10-19-	40	8-15-	20	1.20-1.40	4.00-42.00	0.10-0.12	0.0-2.9					
	3-17	35-43-	80	10-39-	45	8-18-	20	1.25-1.35	14.00-42.00	0.07-0.17	0.0-2.9					
	17-32	25-34-	75	10-37-	45	18-30-	35	1.25-1.35	14.00-42.00	0.07-0.17	0.0-2.9					
	32-42	---	---	---	---	---	---	---	0.00-4.00	---	---					
35E: Lodi-----																
	0-7	55-75-	80	5-15-	30	5-10-	20	1.20-1.50	4.00-42.00	0.08-0.13	0.0-2.9					
	7-19	35-75-	80	5-15-	30	5-10-	25	1.20-1.50	4.00-42.00	0.10-0.19	0.0-2.9					
	19-31	10-15-	60	10-35-	40	30-50-	60	1.35-1.65	4.00-14.00	0.07-0.13	3.0-5.9					
	31-49	10-25-	60	10-37-	40	30-38-	60	1.35-1.65	4.00-14.00	0.07-0.13	3.0-5.9					
	49-67	30-45-	70	10-40-	45	10-15-	40	1.35-1.65	4.00-14.00	0.07-0.19	3.0-5.9					
McClung-----																
	0-3	50-67-	80	5-23-	45	5-10-	20	1.25-1.50	14.00-42.00	0.10-0.13	0.0-2.9					
	3-11	25-66-	80	5-19-	50	10-15-	25	1.20-1.50	4.00-42.00	0.07-0.19	0.0-2.9					
	11-19	25-67-	80	5-15-	50	10-18-	27	1.30-1.60	4.00-42.00	0.07-0.19	0.0-2.9					
	19-65	20-57-	75	5-18-	50	18-25-	40	1.30-1.60	4.00-14.00	0.06-0.13	0.0-2.9					
Lily-----																
	0-3	50-66-	80	10-19-	40	8-15-	20	1.20-1.40	4.00-42.00	0.10-0.12	0.0-2.9					
	3-17	35-43-	80	10-39-	45	8-18-	20	1.25-1.35	14.00-42.00	0.07-0.17	0.0-2.9					
	17-32	25-34-	75	10-37-	45	18-30-	35	1.25-1.35	14.00-42.00	0.07-0.17	0.0-2.9					
	32-42	---	---	---	---	---	---	---	0.00-4.00	---	---					
36C: Lostcove, extremely stony-----																
	0-3	55-68-	75	10-20-	35	5-12-	15	1.20-1.40	14.00-42.00	0.04-0.09	0.0-2.9					
	3-13	35-67-	75	10-19-	45	5-14-	20	1.20-1.40	14.00-42.00	0.04-0.15	0.0-2.9					
	13-65	30-34-	65	10-37-	45	15-30-	35	1.30-1.65	4.00-14.00	0.03-0.15	0.0-2.9					

Table 16.—Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
	<u>In</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>g/cc</u>	<u>um/sec</u>	<u>In/in</u>	<u>Pct</u>
37E: Lostcove, very stony-----	0-3	55-68- 75	10-20- 35	5-12- 15	1.20-1.40	14.00-42.00	0.04-0.09	0.0-2.9
	3-13	35-67- 75	10-19- 45	5-14- 20	1.20-1.40	14.00-42.00	0.04-0.15	0.0-2.9
	13-65	30-34- 65	10-37- 45	15-30- 35	1.30-1.65	4.00-14.00	0.03-0.15	0.0-2.9
37F: Lostcove, very stony-----	0-3	55-68- 75	10-20- 35	5-12- 15	1.20-1.40	14.00-42.00	0.04-0.09	0.0-2.9
	3-13	35-67- 75	10-19- 45	5-14- 20	1.20-1.40	14.00-42.00	0.04-0.15	0.0-2.9
	13-65	30-34- 65	10-37- 45	15-30- 35	1.30-1.65	4.00-14.00	0.03-0.15	0.0-2.9
38E: Marbleyard, extremely stony-----	0-4	55-66- 80	5-19- 45	10-15- 20	1.20-1.50	14.00-141.00	0.04-0.09	0.0-2.9
	4-9	40-66- 80	5-19- 45	10-15- 20	1.20-1.50	14.00-141.00	0.04-0.12	0.0-2.9
	9-23	40-67- 80	5-20- 45	7-13- 18	1.20-1.50	14.00-141.00	0.02-0.12	0.0-2.9
	23-36	40-67- 85	5-23- 45	5-10- 15	1.20-1.50	14.00-141.00	0.01-0.09	0.0-2.9
	36-46	---	---	---	---	0.00-0.07	---	---
Rock outcrop.								
39F: Marbleyard, extremely stony-----	0-4	55-66- 80	5-19- 45	10-15- 20	1.20-1.50	14.00-141.00	0.04-0.09	0.0-2.9
	4-9	40-66- 80	5-19- 45	10-15- 20	1.20-1.50	14.00-141.00	0.04-0.12	0.0-2.9
	9-23	40-67- 80	5-20- 45	7-13- 18	1.20-1.50	14.00-141.00	0.02-0.12	0.0-2.9
	23-36	40-67- 85	5-23- 45	5-10- 15	1.20-1.50	14.00-141.00	0.01-0.09	0.0-2.9
	36-46	---	---	---	---	0.00-0.07	---	---

Table 16.--Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth		Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
	In	Pct							
39F:									
Sherando, extremely stony-----	0-7	55-67- 75	5-23- 35	5-10- 15	1.35-1.65	14.00-42.00	0.07-0.10	0.0-2.9	
	7-26	55-66- 75	5-19- 35	10-15- 20	1.40-1.65	14.00-141.00	0.02-0.08	0.0-2.9	
	26-43	55-66- 75	5-19- 35	10-15- 20	1.40-1.65	14.00-141.00	0.02-0.08	0.0-2.9	
	43-62	55-84- 85	1- 9- 35	5- 8- 10	1.40-1.70	42.00-141.00	0.02-0.09	0.0-2.9	
Rock outcrop.									
39G:									
Marbleyard, extremely stony-----	0-4	55-66- 80	5-19- 45	10-15- 20	1.20-1.50	14.00-141.00	0.04-0.09	0.0-2.9	
	4-9	40-66- 80	5-19- 45	10-15- 20	1.20-1.50	14.00-141.00	0.04-0.12	0.0-2.9	
	9-23	40-67- 80	5-20- 45	7-13- 18	1.20-1.50	14.00-141.00	0.02-0.12	0.0-2.9	
	23-36	40-67- 85	5-23- 45	5-10- 15	1.20-1.50	14.00-141.00	0.01-0.09	0.0-2.9	
	36-46	---	---	---	---	0.00-0.07	---	---	
Sherando, extremely stony-----	0-7	55-67- 75	5-23- 35	5-10- 15	1.35-1.65	14.00-42.00	0.07-0.10	0.0-2.9	
	7-26	55-66- 75	5-19- 35	10-15- 20	1.40-1.65	14.00-141.00	0.02-0.08	0.0-2.9	
	26-43	55-66- 75	5-19- 35	10-15- 20	1.40-1.65	14.00-141.00	0.02-0.08	0.0-2.9	
	43-62	55-84- 85	1- 9- 35	5- 8- 10	1.40-1.70	42.00-141.00	0.02-0.09	0.0-2.9	
Rock outcrop.									
40A:									
Maurertown-----	0-6	2-18- 20	45-49- 70	27-34- 40	1.30-1.40	1.40-4.00	0.12-0.18	3.0-5.9	
	6-65	2- 6- 25	20-47- 65	35-48- 60	1.30-1.50	0.01-0.42	0.12-0.16	6.0-8.9	

Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct
40A: Toms-----	0-7	2-18- 20	55-66- 70	12-16- 27	1.20-1.35	4.00-14.00	0.20-0.24	0.0-2.9
	7-24	2-18- 25	20-37- 65	35-45- 60	1.25-1.40	0.42-1.40	0.11-0.15	3.0-5.9
	24-36	2-18- 25	20-37- 65	35-45- 60	1.25-1.40	0.42-1.40	0.06-0.15	3.0-5.9
	36-53	2-18- 25	20-44- 65	35-38- 60	1.25-1.40	0.42-1.40	0.06-0.15	3.0-5.9
	53-65	2-18- 35	20-44- 65	35-38- 60	1.25-1.40	0.42-1.40	0.06-0.15	3.0-5.9
41C: McCamy, very stony---	0-4	30-44- 50	30-41- 50	7-15- 27	1.20-1.40	4.00-42.00	0.14-0.19	0.0-2.9
	4-7	30-43- 75	10-40- 50	7-17- 27	1.20-1.40	4.00-42.00	0.07-0.19	0.0-2.9
	7-27	25-57- 75	10-18- 50	18-25- 35	1.25-1.35	14.00-42.00	0.05-0.19	0.0-2.9
	27-31	25-57- 75	10-18- 50	18-25- 35	1.25-1.35	14.00-42.00	0.03-0.19	0.0-2.9
	31-41	---	---	---	---	0.00-1.40	---	---
42F: McClung, very stony-----	0-3	50-67- 80	5-23- 45	5-10- 20	1.25-1.50	14.00-42.00	0.10-0.13	0.0-2.9
	3-11	25-66- 80	5-19- 50	10-15- 25	1.20-1.50	4.00-42.00	0.07-0.19	0.0-2.9
	11-19	25-67- 80	5-15- 50	10-18- 27	1.30-1.60	4.00-42.00	0.07-0.19	0.0-2.9
	19-65	20-57- 75	5-18- 50	18-25- 40	1.30-1.60	4.00-14.00	0.06-0.13	0.0-2.9
Caneyville, very stony-----	0-3	5-25- 30	50-55- 75	10-20- 25	1.25-1.35	4.00-14.00	0.18-0.24	0.0-2.9
	3-6	5-20- 45	35-58- 75	10-22- 25	1.45-1.55	4.00-14.00	0.16-0.22	0.0-2.9
	6-12	2-15- 30	10-47- 60	35-38- 60	1.35-1.55	1.40-4.00	0.09-0.15	3.0-5.9
	12-25	2-10- 30	5-35- 60	40-55- 60	1.25-1.50	1.40-4.00	0.09-0.14	3.0-5.9
	25-35	---	---	---	---	0.00-1.40	---	---
DeKalb, very stony---	0-2	50-66- 80	10-19- 35	8-15- 18	1.40-1.55	42.00-141.00	0.11-0.15	0.0-2.9
	2-12	30-66- 80	10-19- 40	8-15- 18	1.40-1.55	42.00-141.00	0.06-0.17	0.0-2.9
	12-22	30-66- 80	10-19- 40	8-15- 18	1.40-1.55	42.00-141.00	0.06-0.13	0.0-2.9
	22-32	50-80- 85	5-15- 35	2- 5- 16	1.40-1.55	42.00-141.00	0.02-0.09	0.0-2.9
	32-42	---	---	---	---	0.00-1.40	---	---

Table 16.--Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth		Sand		Silt		Clay		Moist bulk density		Saturated hydraulic conductivity		Available water capacity		Linear extensi- bility	
	<u>In</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>g/cc</u>	<u>um/sec</u>	<u>In/in</u>	<u>Pct</u>					
43C: Needmore-----	0-5	10-27-30	50-54-70	10-20-25	1.15-1.30	4.00-14.00	0.19-0.22	0.0-2.9								
	5-21	5-22-30	20-28-60	35-50-60	1.35-1.45	1.40-4.00	0.08-0.15	3.0-5.9								
	21-33	5-18-30	20-44-60	35-38-60	1.35-1.45	1.40-4.00	0.08-0.15	3.0-5.9								
	33-43	---	---	---	---	0.00-4.00	---	---								
Opequon-----	0-2	2-10-20	40-54-70	27-36-40	1.30-1.40	1.40-14.00	0.11-0.15	6.0-8.9								
	2-14	2-10-30	5-25-70	35-65-75	1.25-1.55	1.40-14.00	0.07-0.15	6.0-8.9								
	14-24	---	---	---	---	0.00-4.00	---	---								
43E: Needmore-----	0-5	10-27-30	50-54-70	10-20-25	1.15-1.30	4.00-14.00	0.19-0.22	0.0-2.9								
	5-21	5-22-30	20-28-60	35-50-60	1.35-1.45	1.40-4.00	0.08-0.15	3.0-5.9								
	21-33	5-18-30	20-44-60	35-38-60	1.35-1.45	1.40-4.00	0.08-0.15	3.0-5.9								
	33-43	---	---	---	---	0.00-4.00	---	---								
Opequon-----	0-2	2-10-20	40-54-70	27-36-40	1.30-1.40	1.40-14.00	0.11-0.15	6.0-8.9								
	2-14	2-10-30	5-25-70	35-65-75	1.25-1.55	1.40-14.00	0.07-0.15	6.0-8.9								
	14-24	---	---	---	---	0.00-4.00	---	---								
43F: Needmore-----	0-5	10-27-30	50-54-70	10-20-25	1.15-1.30	4.00-14.00	0.19-0.22	0.0-2.9								
	5-21	5-22-30	20-28-60	35-50-60	1.35-1.45	1.40-4.00	0.08-0.15	3.0-5.9								
	21-33	5-18-30	20-44-60	35-38-60	1.35-1.45	1.40-4.00	0.08-0.15	3.0-5.9								
	33-43	---	---	---	---	0.00-4.00	---	---								
Opequon-----	0-2	2-10-20	40-54-70	27-36-40	1.30-1.40	1.40-14.00	0.11-0.15	6.0-8.9								
	2-14	2-10-30	5-25-70	35-65-75	1.25-1.55	1.40-14.00	0.07-0.15	6.0-8.9								
	14-24	---	---	---	---	0.00-4.00	---	---								



Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand		Silt		Clay		Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	
		In	Pct	Pct	Pct	Pct	Pct				In/in	Pct
44E: Needmore-----	0-5	10-27-	30	50-54-	70	10-20-	25	1.15-1.30	4.00-14.00	0.19-0.22	0.0-2.9	
	5-21	5-22-	30	20-28-	60	35-50-	60	1.35-1.45	1.40-4.00	0.08-0.15	3.0-5.9	
	21-33	5-18-	30	20-44-	60	35-38-	60	1.35-1.45	1.40-4.00	0.08-0.15	3.0-5.9	
	33-43	---	---	---	---	---	---	---	0.00-4.00	---	---	
Urban land.												
45B: Nicelytown-----	0-1	25-42-	50	30-38-	50	7-20-	27	1.35-1.60	4.00-14.00	0.15-0.22	0.0-2.9	
	1-14	20-42-	70	15-38-	70	7-20-	27	1.35-1.60	1.40-4.00	0.13-0.22	0.0-2.9	
	14-22	10-38-	50	25-36-	70	18-26-	35	1.45-1.70	1.40-4.00	0.07-0.22	0.0-2.9	
	22-49	10-34-	50	25-37-	70	18-30-	35	1.45-1.70	1.40-4.00	0.05-0.22	0.0-2.9	
	49-65	10-34-	50	25-37-	65	18-30-	35	1.45-1.70	1.40-4.00	0.05-0.19	0.0-2.9	
Urban land.												
46B: Nicelytown-----	0-1	25-42-	50	30-38-	50	7-20-	27	1.35-1.60	4.00-14.00	0.15-0.22	0.0-2.9	
	1-14	20-42-	70	15-38-	70	7-20-	27	1.35-1.60	1.40-4.00	0.13-0.22	0.0-2.9	
	14-22	10-38-	50	25-36-	70	18-26-	35	1.45-1.70	1.40-4.00	0.07-0.22	0.0-2.9	
	22-49	10-34-	50	25-37-	70	18-30-	35	1.45-1.70	1.40-4.00	0.05-0.22	0.0-2.9	
	49-65	10-34-	50	25-37-	65	18-30-	35	1.45-1.70	1.40-4.00	0.05-0.19	0.0-2.9	
Urban land.												
47C: Oriskany, extremely stony-----	0-6	50-68-	75	15-20-	35	5-12-	15	1.20-1.40	14.00-42.00	0.07-0.14	0.0-2.9	
	6-11	30-67-	75	15-20-	35	5-13-	25	1.20-1.40	14.00-42.00	0.04-0.17	0.0-2.9	
	11-65	30-42-	75	15-38-	50	15-20-	35	1.25-1.60	14.00-42.00	0.03-0.14	0.0-2.9	

Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility			
	<u>In</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>g/cc</u>	<u>um/sec</u>	<u>In/in</u>	<u>Pct</u>			
47C:											
Laidig, extremely stony-----	0-4	30-43-	50	30-43-	50	7-14-	20	1.20-1.40	4.00-42.00	0.09-0.18	0.0-2.9
	4-9	30-45-	75	5-43-	50	7-12-	20	1.30-1.40	4.00-42.00	0.07-0.18	0.0-2.9
	9-32	30-38-	75	5-36-	50	18-26-	35	1.30-1.50	4.00-14.00	0.06-0.17	0.0-2.9
	32-67	30-40-	75	5-39-	50	18-21-	30	1.40-1.70	0.42-4.00	0.03-0.17	0.0-2.9
47E:											
Oriskany, extremely stony-----	0-6	50-68-	75	15-20-	35	5-12-	15	1.20-1.40	14.00-42.00	0.07-0.14	0.0-2.9
	6-11	30-67-	75	15-20-	35	5-13-	25	1.20-1.40	14.00-42.00	0.04-0.17	0.0-2.9
	11-65	30-42-	75	15-38-	50	15-20-	35	1.25-1.60	14.00-42.00	0.03-0.14	0.0-2.9
Laidig, extremely stony-----											
Laidig, extremely stony-----	0-4	30-43-	50	30-43-	50	7-14-	20	1.20-1.40	4.00-42.00	0.09-0.18	0.0-2.9
	4-9	30-45-	75	5-43-	50	7-12-	20	1.30-1.40	4.00-42.00	0.07-0.18	0.0-2.9
	9-32	30-38-	75	5-36-	50	18-26-	35	1.30-1.50	4.00-14.00	0.06-0.17	0.0-2.9
	32-67	30-40-	75	5-39-	50	18-21-	30	1.40-1.70	0.42-4.00	0.03-0.17	0.0-2.9
48F:											
Oriskany, extremely stony-----	0-6	50-68-	75	15-20-	35	5-12-	15	1.20-1.40	14.00-42.00	0.07-0.14	0.0-2.9
	6-11	30-67-	75	15-20-	35	5-13-	25	1.20-1.40	14.00-42.00	0.04-0.17	0.0-2.9
	11-65	30-42-	75	15-38-	50	15-20-	35	1.25-1.60	14.00-42.00	0.03-0.14	0.0-2.9
49C:											
Oriskany, extremely stony-----	0-6	50-68-	75	15-20-	35	5-12-	15	1.20-1.40	14.00-42.00	0.07-0.14	0.0-2.9
	6-11	30-67-	75	15-20-	35	5-13-	25	1.20-1.40	14.00-42.00	0.04-0.17	0.0-2.9
	11-65	30-42-	75	15-38-	50	15-20-	35	1.25-1.60	14.00-42.00	0.03-0.14	0.0-2.9

Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand		Silt		Clay		Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	
		<u>In</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>In/in</u>	<u>Pct</u>					
49C:												
Murrill, extremely stony-----	0-4	30-42-	50 30-38-	50 10-20-	20 1.20-1.50	4.00-14.00	0.17-0.19	0.0-2.9				
	4-10	15-21-	75 20-55-	60 10-25-	25 1.40-1.70	4.00-14.00	0.09-0.19	0.0-2.9				
	10-40	15-18-	50 30-50-	65 18-32-	35 1.40-1.70	4.00-14.00	0.09-0.19	0.0-2.9				
	40-65	5- 7-	30 30-48-	60 27-45-	55 1.40-1.70	1.40-14.00	0.09-0.15	3.0-5.9				
49E:												
Oriskany, extremely stony-----	0-6	50-68-	75 15-20-	35  5-12-	15 1.20-1.40	14.00-42.00	0.07-0.14	0.0-2.9				
	6-11	30-67-	75 15-20-	35  5-13-	25 1.20-1.40	14.00-42.00	0.04-0.17	0.0-2.9				
	11-65	30-42-	75 15-38-	50 15-20-	35 1.25-1.60	14.00-42.00	0.03-0.14	0.0-2.9				
Murrill, extremely stony-----												
	0-4	30-42-	50 30-38-	50 10-20-	20 1.20-1.50	4.00-14.00	0.17-0.19	0.0-2.9				
	4-10	15-21-	75 20-55-	60 10-25-	25 1.40-1.70	4.00-14.00	0.09-0.19	0.0-2.9				
	10-40	15-18-	50 30-50-	65 18-32-	35 1.40-1.70	4.00-14.00	0.09-0.19	0.0-2.9				
	40-65	5- 7-	30 30-48-	60 27-45-	55 1.40-1.70	1.40-14.00	0.09-0.15	3.0-5.9				
49F:												
Oriskany, extremely stony-----	0-6	50-68-	75 15-20-	35  5-12-	15 1.20-1.40	14.00-42.00	0.07-0.14	0.0-2.9				
	6-11	30-67-	75 15-20-	35  5-13-	25 1.20-1.40	14.00-42.00	0.04-0.17	0.0-2.9				
	11-65	30-42-	75 15-38-	50 15-20-	35 1.25-1.60	14.00-42.00	0.03-0.14	0.0-2.9				
Murrill, extremely stony-----												
	0-4	30-42-	50 30-38-	50 10-20-	20 1.20-1.50	4.00-14.00	0.17-0.19	0.0-2.9				
	4-10	15-21-	75 20-55-	60 10-25-	25 1.40-1.70	4.00-14.00	0.09-0.19	0.0-2.9				
	10-40	15-18-	50 30-50-	65 18-32-	35 1.40-1.70	4.00-14.00	0.09-0.19	0.0-2.9				
	40-65	5- 7-	30 30-48-	60 27-45-	55 1.40-1.70	1.40-14.00	0.09-0.15	3.0-5.9				

Table 16.--Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth		Sand		Silt		Clay		Moist bulk density		Saturated hydraulic conductivity		Available water capacity		Linear extensi- bility	
	In	Pct	Pct	Pct	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct	Pct	Pct	Pct	Pct
50E: Peaks, very rocky----	0-6	55-67-	75	15-23-	45	7-10-	16	1.20-1.40	42.00-141.00	0.07-0.10	0.0-2.9					
	6-23	30-68-	75	15-20-	50	5-12-	18	1.20-1.40	42.00-141.00	0.03-0.10	0.0-2.9					
	23-29	---	---	---	---	---	---	---	0.00-0.42	---	---					
	29-39	---	---	---	---	---	---	---	0.00-0.42	---	---					
Edneytown, very rocky-----	0-4	35-46-	50	35-44-	50	7-10-	15	1.40-1.60	14.00-42.00	0.14-0.19	0.0-2.9					
	4-8	35-46-	80	5-44-	50	5-10-	15	1.30-1.40	4.00-14.00	0.07-0.19	0.0-2.9					
	8-36	20-57-	70	5-18-	50	18-25-	35	1.30-1.50	4.00-14.00	0.07-0.13	0.0-2.9					
	36-64	50-68-	85	2-20-	40	5-12-	15	1.30-1.50	14.00-42.00	0.05-0.19	0.0-2.9					
	64-74	---	---	---	---	---	---	---	0.00-14.00	---	---					
50F: Peaks, very rocky----	0-6	55-67-	75	15-23-	45	7-10-	16	1.20-1.40	42.00-141.00	0.07-0.10	0.0-2.9					
	6-23	30-68-	75	15-20-	50	5-12-	18	1.20-1.40	42.00-141.00	0.03-0.10	0.0-2.9					
	23-29	---	---	---	---	---	---	---	0.00-0.42	---	---					
	29-39	---	---	---	---	---	---	---	0.00-0.42	---	---					
Edneytown, very rocky-----	0-4	35-46-	50	35-44-	50	7-10-	15	1.40-1.60	14.00-42.00	0.14-0.19	0.0-2.9					
	4-8	35-46-	80	5-44-	50	5-10-	15	1.30-1.40	4.00-14.00	0.07-0.19	0.0-2.9					
	8-36	20-57-	70	5-18-	50	18-25-	35	1.30-1.50	4.00-14.00	0.07-0.13	0.0-2.9					
	36-64	50-68-	85	2-20-	40	5-12-	15	1.30-1.50	14.00-42.00	0.05-0.19	0.0-2.9					
	64-74	---	---	---	---	---	---	---	0.00-14.00	---	---					
51A: Philo-----	0-9	55-60-	80	5-28-	40	10-12-	18	1.20-1.40	14.00-42.00	0.13-0.18	0.0-2.9					
	9-23	35-60-	80	5-28-	45	10-12-	18	1.20-1.40	4.00-14.00	0.10-0.19	0.0-2.9					
	23-30	35-48-	80	5-38-	45	10-14-	18	1.20-1.40	4.00-14.00	0.10-0.19	0.0-2.9					
	30-65	35-48-	80	5-38-	45	10-14-	18	1.20-1.40	4.00-42.00	0.07-0.19	0.0-2.9					

Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth		Sand		Silt		Clay		Moist bulk density		Saturated hydraulic conductivity		Available water capacity		Linear extensi- bility	
	In	Pct	Pct	Pct	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct	In/in	Pct	Pct	Pct
52C:																
Pignut, very stony---	0-7	15-30-	40	50-55-	75	10-15-	27	1.20-1.50	14.00-42.00	0.17-0.22	0.0-2.9					
	7-31	15-18-	40	30-54-	75	15-28-	40	1.20-1.50	4.00-14.00	0.07-0.22	0.0-2.9					
	31-37	15-30-	45	30-55-	75	10-15-	27	1.20-1.50	4.00-14.00	0.05-0.19	0.0-2.9					
	37-47	---	---	---	---	---	---	---	0.00-0.42	---	---					
Myersville, very stony-----																
	0-3	10-31-	40	50-57-	75	5-13-	20	1.20-1.50	14.00-42.00	0.20-0.22	0.0-2.9					
	3-28	10-18-	50	20-53-	75	18-29-	35	1.20-1.50	4.00-14.00	0.09-0.22	0.0-2.9					
	28-50	10-26-	50	25-53-	75	10-21-	32	1.20-1.50	4.00-14.00	0.07-0.22	0.0-2.9					
	50-60	---	---	---	---	---	---	---	0.00-14.00	---	---					
53E:																
Pignut, very stony---	0-7	15-30-	40	50-55-	75	10-15-	27	1.20-1.50	14.00-42.00	0.17-0.22	0.0-2.9					
	7-31	15-18-	40	30-54-	75	15-28-	40	1.20-1.50	4.00-14.00	0.07-0.22	0.0-2.9					
	31-37	15-30-	45	30-55-	75	10-15-	27	1.20-1.50	4.00-14.00	0.05-0.19	0.0-2.9					
	37-47	---	---	---	---	---	---	---	0.00-0.42	---	---					
53F:																
Pignut, very stony---	0-7	15-30-	40	50-55-	75	10-15-	27	1.20-1.50	14.00-42.00	0.17-0.22	0.0-2.9					
	7-31	15-18-	40	30-54-	75	15-28-	40	1.20-1.50	4.00-14.00	0.07-0.22	0.0-2.9					
	31-37	15-30-	45	30-55-	75	10-15-	27	1.20-1.50	4.00-14.00	0.05-0.19	0.0-2.9					
	37-47	---	---	---	---	---	---	---	0.00-0.42	---	---					
54.																
Pits and Dumps.																
55A:																
Pope-----	0-8	55-60-	80	5-30-	40	5-10-	15	1.20-1.50	14.00-42.00	0.12-0.18	0.0-2.9					
	8-45	35-60-	80	5-30-	45	5-10-	18	1.20-1.50	4.00-42.00	0.07-0.19	0.0-2.9					
	45-65	55-78-	85	5-15-	40	5-7-	18	1.20-1.50	4.00-42.00	0.02-0.16	0.0-2.9					

Table 16.--Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth		Sand		Silt		Clay		Moist bulk density		Saturated hydraulic conductivity		Available water capacity		Linear extensi- bility	
	<u>In</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>g/cc</u>	<u>um/sec</u>	<u>In/in</u>	<u>Pct</u>					
56G: Rock outcrop.																
Opequon-----	0-2	2-10-20	40-54-70	27-36-40	1.30-1.40	1.40-14.00	0.11-0.15	6.0-8.9								
	2-14	2-10-30	5-25-70	35-65-75	1.25-1.55	1.40-14.00	0.07-0.15	6.0-8.9								
	14-24	---	---	---	---	0.00-4.00	---	---								
57A: Sensabaugh-----	0-9	30-42-50	30-38-50	8-20-25	1.25-1.40	4.00-42.00	0.14-0.20	0.0-2.9								
	9-39	10-42-60	10-37-70	18-22-35	1.30-1.50	4.00-42.00	0.07-0.18	0.0-2.9								
	39-61	10-65-70	5-17-70	12-18-38	1.25-1.50	4.00-42.00	0.02-0.18	0.0-2.9								
Lobdell-----	0-15	30-42-50	30-38-50	15-20-27	1.20-1.40	4.00-14.00	0.17-0.22	0.0-2.9								
	15-33	15-42-50	30-38-75	18-20-27	1.20-1.40	4.00-14.00	0.14-0.22	0.0-2.9								
	33-65	15-65-70	15-20-75	12-15-27	1.20-1.40	4.00-42.00	0.10-0.22	0.0-2.9								
Derroc-----	0-3	55-67-75	10-23-40	5-10-15	1.40-1.65	14.00-141.00	0.06-0.12	0.0-2.9								
	3-9	35-67-75	10-23-50	5-10-15	1.40-1.65	14.00-141.00	0.06-0.18	0.0-2.9								
	9-33	35-67-75	10-23-50	5-10-15	1.55-1.70	14.00-141.00	0.04-0.15	0.0-2.9								
	33-63	55-83-85	5-10-40	5-7-10	1.55-1.70	42.00-141.00	0.03-0.10	0.0-2.9								
58B: Shottower-----																
	0-7	50-69-75	5-22-45	5-10-20	1.35-1.45	4.00-42.00	0.13-0.18	0.0-2.9								
	7-15	20-34-70	5-33-55	25-33-40	1.40-1.55	4.00-14.00	0.09-0.13	3.0-5.9								
	15-31	10-26-45	5-29-50	35-45-60	1.35-1.50	4.00-14.00	0.08-0.13	3.0-5.9								
	31-50	10-26-45	5-29-50	35-45-60	1.35-1.50	4.00-14.00	0.08-0.13	3.0-5.9								
	50-62	10-22-45	5-28-40	40-50-70	1.35-1.45	4.00-14.00	0.04-0.12	3.0-5.9								

Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct
58C: Shottower-----	0-7	50-69- 75	5-22- 45	5-10- 20	1.35-1.45	4.00-42.00	0.13-0.18	0.0-2.9
	7-15	20-34- 70	5-33- 55	25-33- 40	1.40-1.55	4.00-14.00	0.09-0.13	3.0-5.9
	15-31	10-26- 45	5-29- 50	35-45- 60	1.35-1.50	4.00-14.00	0.08-0.13	3.0-5.9
	31-50	10-26- 45	5-29- 50	35-45- 60	1.35-1.50	4.00-14.00	0.08-0.13	3.0-5.9
	50-62	10-22- 45	5-28- 40	40-50- 70	1.35-1.45	4.00-14.00	0.04-0.12	3.0-5.9
58D: Shottower-----	0-7	50-69- 75	5-22- 45	5-10- 20	1.35-1.45	4.00-42.00	0.13-0.18	0.0-2.9
	7-15	20-34- 70	5-33- 55	25-33- 40	1.40-1.55	4.00-14.00	0.09-0.13	3.0-5.9
	15-31	10-26- 45	5-29- 50	35-45- 60	1.35-1.50	4.00-14.00	0.08-0.13	3.0-5.9
	31-50	10-26- 45	5-29- 50	35-45- 60	1.35-1.50	4.00-14.00	0.08-0.13	3.0-5.9
	50-62	10-22- 45	5-28- 40	40-50- 70	1.35-1.45	4.00-14.00	0.04-0.12	3.0-5.9
59E: Shottower-----	0-6	50-69- 75	5-22- 45	5-10- 20	1.35-1.45	4.00-42.00	0.10-0.16	0.0-2.9
	6-15	20-34- 70	5-33- 55	25-33- 40	1.40-1.55	4.00-14.00	0.09-0.13	3.0-5.9
	15-24	10-26- 45	5-29- 50	35-45- 60	1.35-1.50	4.00-14.00	0.08-0.13	3.0-5.9
	24-40	10-26- 45	5-29- 50	35-45- 60	1.35-1.50	4.00-14.00	0.07-0.13	3.0-5.9
	40-62	10-22- 45	5-28- 40	40-50- 70	1.35-1.45	4.00-14.00	0.04-0.12	3.0-5.9
60C: Shottower-----	0-7	50-69- 75	5-22- 45	5-10- 20	1.35-1.45	4.00-42.00	0.13-0.18	0.0-2.9
	7-15	20-34- 70	5-33- 55	25-33- 40	1.40-1.55	4.00-14.00	0.09-0.13	3.0-5.9
	15-31	10-26- 45	5-29- 50	35-45- 60	1.35-1.50	4.00-14.00	0.08-0.13	3.0-5.9
	31-50	10-26- 45	5-29- 50	35-45- 60	1.35-1.50	4.00-14.00	0.08-0.13	3.0-5.9
	50-62	10-22- 45	5-28- 40	40-50- 70	1.35-1.45	4.00-14.00	0.04-0.12	3.0-5.9
Urban land.								

Table 16.--Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct
61B: Siabtown-----	0-9	25-27-	45 35-55-	60 10-18-	27 1.25-1.50	4.00-14.00	0.18-0.22	0.0-2.9
	9-14	15-21-	45 35-55-	70 15-24-	27 1.25-1.50	4.00-14.00	0.10-0.21	0.0-2.9
	14-35	10-17-	45 30-53-	70 20-30-	35 1.30-1.60	4.00-14.00	0.07-0.21	3.0-5.9
	35-64	5- 5-	35 15-45-	60 35-50-	60 1.25-1.55	1.40-4.00	0.09-0.15	6.0-8.9
61C: Siabtown-----	0-9	25-27-	45 35-55-	60 10-18-	27 1.25-1.50	4.00-14.00	0.18-0.22	0.0-2.9
	9-14	15-21-	45 35-55-	70 15-24-	27 1.25-1.50	4.00-14.00	0.10-0.21	0.0-2.9
	14-35	10-17-	45 30-53-	70 20-30-	35 1.30-1.60	4.00-14.00	0.07-0.21	3.0-5.9
	35-64	5- 5-	35 15-45-	60 35-50-	60 1.25-1.55	1.40-4.00	0.09-0.15	6.0-8.9
62. Slickens.								
63E: Stumptown, extremely stony-----	0-8	40-67-	75 10-15-	45 10-18-	20 1.20-1.50	14.00-42.00	0.07-0.14	0.0-2.9
	8-17	30-39-	70 15-37-	45 15-25-	35 1.30-1.60	14.00-42.00	0.03-0.11	0.0-2.9
	17-33	30-43-	80 10-39-	45 10-18-	27 1.30-1.60	14.00-42.00	0.01-0.15	0.0-2.9
	33-37	---	---	---	---	0.00-0.07	---	---
Marbleyard, extremely stony-----	0-4	55-66-	80  5-19-	45 10-15-	20 1.20-1.50	14.00-141.00	0.04-0.09	0.0-2.9
	4-9	40-66-	80  5-19-	45 10-15-	20 1.20-1.50	14.00-141.00	0.04-0.12	0.0-2.9
	9-23	40-67-	80  5-20-	45  7-13-	18 1.20-1.50	14.00-141.00	0.02-0.12	0.0-2.9
	23-36	40-67-	85  5-23-	45  5-10-	15 1.20-1.50	14.00-141.00	0.01-0.09	0.0-2.9
	36-46	---	---	---	---	0.00-0.07	---	---
Rock outcrop.								



Table 16.—Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth		Sand		Silt		Clay		Moist bulk density		Saturated hydraulic conductivity		Available water capacity		Linear extensi- bility	
	In	Pct	Pct	Pct	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct	In/in	Pct	Pct	Pct
63F:																
Stumptown, extremely stony-----	0-8	40-67-	75	10-15-	45	10-18-	20	1.20-1.50	14.00-42.00	0.07-0.14	0.0-2.9					
	8-17	30-39-	70	15-37-	45	15-25-	35	1.30-1.60	14.00-42.00	0.03-0.11	0.0-2.9					
	17-33	30-43-	80	10-39-	45	10-18-	27	1.30-1.60	14.00-42.00	0.01-0.15	0.0-2.9					
	33-37	---	---	---	---	---	---	---	0.00-0.07	---	---					
Marbleyard, extremely stony-----	0-4	55-66-	80	5-19-	45	10-15-	20	1.20-1.50	14.00-141.00	0.04-0.09	0.0-2.9					
	4-9	40-66-	80	5-19-	45	10-15-	20	1.20-1.50	14.00-141.00	0.04-0.12	0.0-2.9					
	9-23	40-67-	80	5-20-	45	7-13-	18	1.20-1.50	14.00-141.00	0.02-0.12	0.0-2.9					
	23-36	40-67-	85	5-23-	45	5-10-	15	1.20-1.50	14.00-141.00	0.01-0.09	0.0-2.9					
	36-46	---	---	---	---	---	---	---	0.00-0.07	---	---					
Rock outcrop.																
63G:																
Stumptown, extremely stony-----	0-8	40-67-	75	10-15-	45	10-18-	20	1.20-1.50	14.00-42.00	0.07-0.14	0.0-2.9					
	8-17	30-39-	70	15-37-	45	15-25-	35	1.30-1.60	14.00-42.00	0.03-0.11	0.0-2.9					
	17-33	30-43-	80	10-39-	45	10-18-	27	1.30-1.60	14.00-42.00	0.01-0.15	0.0-2.9					
	33-37	---	---	---	---	---	---	---	0.00-0.07	---	---					
Marbleyard, extremely stony-----	0-4	55-66-	80	5-19-	45	10-15-	20	1.20-1.50	14.00-141.00	0.04-0.09	0.0-2.9					
	4-9	40-66-	80	5-19-	45	10-15-	20	1.20-1.50	14.00-141.00	0.04-0.12	0.0-2.9					
	9-23	40-67-	80	5-20-	45	7-13-	18	1.20-1.50	14.00-141.00	0.02-0.12	0.0-2.9					
	23-36	40-67-	85	5-23-	45	5-10-	15	1.20-1.50	14.00-141.00	0.01-0.09	0.0-2.9					
	36-46	---	---	---	---	---	---	---	0.00-0.07	---	---					
Rock outcrop.																

Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth		Sand		Silt		Clay		Moist bulk density		Saturated hydraulic conductivity		Available water capacity		Linear extensi- bility	
	In	Pct	Pct	Pct	Pct	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	In/in	Pct	In/in	Pct
64E: Stumptown, very stony-----	0-8	40-67-	75 10-15-	45 10-18-	20 1.20-1.50	14.00-42.00	0.07-0.14	0.0-2.9								
	8-17	30-39-	70 15-37-	45 15-25-	35 1.30-1.60	14.00-42.00	0.03-0.11	0.0-2.9								
	17-33	30-43-	80 10-39-	45 10-18-	27 1.30-1.60	14.00-42.00	0.01-0.15	0.0-2.9								
	33-37	---	---	---	---	0.00-0.07	---	---								
Sylco, very stony----	0-6	5-43-	50 30-39-	50 10-18-	25 1.00-1.20	14.00-42.00	0.11-0.19	0.0-2.9								
	6-22	5-41-	50 30-37-	80 10-22-	27 1.30-1.50	14.00-42.00	0.07-0.14	0.0-2.9								
	22-29	5-42-	50 30-38-	80 10-20-	27 1.20-1.50	14.00-42.00	0.04-0.13	0.0-2.9								
	29-39	---	---	---	---	0.00-0.42	---	---								
64F: Stumptown, very stony-----	0-8	40-67-	75 10-15-	45 10-18-	20 1.20-1.50	14.00-42.00	0.07-0.14	0.0-2.9								
	8-17	30-39-	70 15-37-	45 15-25-	35 1.30-1.60	14.00-42.00	0.03-0.11	0.0-2.9								
	17-33	30-43-	80 10-39-	45 10-18-	27 1.30-1.60	14.00-42.00	0.01-0.15	0.0-2.9								
	33-37	---	---	---	---	0.00-0.07	---	---								
Sylco, very stony----	0-6	5-43-	50 30-39-	50 10-18-	25 1.00-1.20	14.00-42.00	0.11-0.19	0.0-2.9								
	6-22	5-41-	50 30-37-	80 10-22-	27 1.30-1.50	14.00-42.00	0.07-0.14	0.0-2.9								
	22-29	5-42-	50 30-38-	80 10-20-	27 1.20-1.50	14.00-42.00	0.04-0.13	0.0-2.9								
	29-39	---	---	---	---	0.00-0.42	---	---								
65E: Sylco, very rocky----	0-6	5-43-	50 30-39-	50 10-18-	25 1.00-1.20	14.00-42.00	0.11-0.19	0.0-2.9								
	6-22	5-41-	50 30-37-	80 10-22-	27 1.30-1.50	14.00-42.00	0.07-0.14	0.0-2.9								
	22-29	5-42-	50 30-38-	80 10-20-	27 1.20-1.50	14.00-42.00	0.04-0.13	0.0-2.9								
	29-39	---	---	---	---	0.00-0.42	---	---								

Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
	<u>In</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>g/cc</u>	<u>um/sec</u>	<u>In/in</u>	<u>Pct</u>
65E: Marbleyard, very rocky-----								
	0-4	55-66- 80	5-19- 45	10-15- 20	1.20-1.50	14.00-141.00	0.04-0.09	0.0-2.9
	4-9	40-66- 80	5-19- 45	10-15- 20	1.20-1.50	14.00-141.00	0.04-0.12	0.0-2.9
	9-23	40-67- 80	5-20- 45	7-13- 18	1.20-1.50	14.00-141.00	0.02-0.12	0.0-2.9
	23-36	40-67- 85	5-23- 45	5-10- 15	1.20-1.50	14.00-141.00	0.01-0.09	0.0-2.9
	36-46	---	---	---	---	0.00-0.07	---	---
65F: Sylco, very rocky----								
	0-6	5-43- 50	30-39- 50	10-18- 25	1.00-1.20	14.00-42.00	0.11-0.19	0.0-2.9
	6-22	5-41- 50	30-37- 80	10-22- 27	1.30-1.50	14.00-42.00	0.07-0.14	0.0-2.9
	22-29	5-42- 50	30-38- 80	10-20- 27	1.20-1.50	14.00-42.00	0.04-0.13	0.0-2.9
	29-39	---	---	---	---	0.00-0.42	---	---
Marbleyard, very rocky-----								
	0-4	55-66- 80	5-19- 45	10-15- 20	1.20-1.50	14.00-141.00	0.04-0.09	0.0-2.9
	4-9	40-66- 80	5-19- 45	10-15- 20	1.20-1.50	14.00-141.00	0.04-0.12	0.0-2.9
	9-23	40-67- 80	5-20- 45	7-13- 18	1.20-1.50	14.00-141.00	0.02-0.12	0.0-2.9
	23-36	40-67- 85	5-23- 45	5-10- 15	1.20-1.50	14.00-141.00	0.01-0.09	0.0-2.9
	36-46	---	---	---	---	0.00-0.07	---	---
65G: Sylco, very rocky----								
	0-6	5-43- 50	30-39- 50	10-18- 25	1.00-1.20	14.00-42.00	0.11-0.19	0.0-2.9
	6-22	5-41- 50	30-37- 80	10-22- 27	1.30-1.50	14.00-42.00	0.07-0.14	0.0-2.9
	22-29	5-42- 50	30-38- 80	10-20- 27	1.20-1.50	14.00-42.00	0.04-0.13	0.0-2.9
	29-39	---	---	---	---	0.00-0.42	---	---
Marbleyard, very rocky-----								
	0-4	55-66- 80	5-19- 45	10-15- 20	1.20-1.50	14.00-141.00	0.04-0.09	0.0-2.9
	4-9	40-66- 80	5-19- 45	10-15- 20	1.20-1.50	14.00-141.00	0.04-0.12	0.0-2.9
	9-23	40-67- 80	5-20- 45	7-13- 18	1.20-1.50	14.00-141.00	0.02-0.12	0.0-2.9
	23-36	40-67- 85	5-23- 45	5-10- 15	1.20-1.50	14.00-141.00	0.01-0.09	0.0-2.9
	36-46	---	---	---	---	0.00-0.07	---	---

Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand		Silt		Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	
		In	Pct	Pct	Pct					In/in	Pct
66C: Thunder, very bouldery-----											
	0-16	25-42-	50 30-38-	50	7-20-	27 1.45-1.55	4.00-14.00	0.09-0.16	0.0-2.9		
	16-22	25-42-	50 30-38-	50	7-20-	27 1.45-1.55	4.00-14.00	0.09-0.16	0.0-2.9		
	22-38	25-39-	70 10-37-	50 20-25-	35 1.45-1.55	4.00-14.00	0.03-0.15	0.0-2.9			
	38-46	25-39-	65 10-37-	45 20-25-	40 1.45-1.55	4.00-14.00	0.03-0.15	0.0-2.9			
Saunook, very bouldery-----	46-65	25-44-	75 10-41-	45	5-15-	35 1.45-1.55	14.00-42.00	0.03-0.15	0.0-2.9		
	0-8	30-42-	50 30-38-	50	7-20-	27 1.35-1.60	4.00-14.00	0.12-0.16	0.0-2.9		
	8-13	30-42-	50 30-38-	50	7-20-	27 1.35-1.60	4.00-14.00	0.12-0.21	0.0-2.9		
	13-54	25-34-	65 15-37-	60 20-30-	35 1.30-1.50	4.00-14.00	0.07-0.22	0.0-2.9			
66E: Thunder, very bouldery-----	54-65	25-42-	65 15-38-	50	7-20-	35 1.35-1.60	4.00-14.00	0.06-0.22	0.0-2.9		
	0-16	25-42-	50 30-38-	50	7-20-	27 1.45-1.55	4.00-14.00	0.09-0.16	0.0-2.9		
	16-22	25-42-	50 30-38-	50	7-20-	27 1.45-1.55	4.00-14.00	0.09-0.16	0.0-2.9		
	22-38	25-39-	70 10-37-	50 20-25-	35 1.45-1.55	4.00-14.00	0.03-0.15	0.0-2.9			
Saunook, very bouldery-----	38-46	25-39-	65 10-37-	45 20-25-	40 1.45-1.55	4.00-14.00	0.03-0.15	0.0-2.9			
	46-65	25-44-	75 10-41-	45	5-15-	35 1.45-1.55	14.00-42.00	0.03-0.15	0.0-2.9		
	0-8	30-42-	50 30-38-	50	7-20-	27 1.35-1.60	4.00-14.00	0.12-0.16	0.0-2.9		
	8-13	30-42-	50 30-38-	50	7-20-	27 1.35-1.60	4.00-14.00	0.12-0.21	0.0-2.9		
	13-54	25-34-	65 15-37-	60 20-30-	35 1.30-1.50	4.00-14.00	0.07-0.22	0.0-2.9			
	54-65	25-42-	65 15-38-	50	7-20-	35 1.35-1.60	4.00-14.00	0.06-0.22	0.0-2.9		

Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth		Sand		Silt		Clay		Moist bulk density		Saturated hydraulic conductivity		Available water capacity		Linear extensi- bility	
	<u>In</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>g/cc</u>	<u>um/sec</u>	<u>In/in</u>	<u>Pct</u>							
66F: Thunder, very bouldery-----	0-16	25-42-	50 30-38-	50	7-20-	27 1.45-1.55	4.00-14.00	0.09-0.16	0.0-2.9							
	16-22	25-42-	50 30-38-	50	7-20-	27 1.45-1.55	4.00-14.00	0.09-0.16	0.0-2.9							
	22-38	25-39-	70 10-37-	50 20-25-	35 1.45-1.55	4.00-14.00	0.03-0.15	0.0-2.9								
	38-46	25-39-	65 10-37-	45 20-25-	40 1.45-1.55	4.00-14.00	0.03-0.15	0.0-2.9								
	46-65	25-44-	75 10-41-	45	5-15-	35 1.45-1.55	14.00-42.00	0.03-0.15	0.0-2.9							
Saunook, very bouldery-----	0-8	30-42-	50 30-38-	50	7-20-	27 1.35-1.60	4.00-14.00	0.12-0.16	0.0-2.9							
	8-13	30-42-	50 30-38-	50	7-20-	27 1.35-1.60	4.00-14.00	0.12-0.21	0.0-2.9							
	13-54	25-34-	65 15-37-	60 20-30-	35 1.30-1.50	4.00-14.00	0.07-0.22	0.0-2.9								
	54-65	25-42-	65 15-38-	50	7-20-	35 1.35-1.60	4.00-14.00	0.06-0.22	0.0-2.9							
67C: Tumbling-----	0-5	55-70-	80	5-18-	40 10-12-	20 1.20-1.40	4.00-14.00	0.12-0.18	0.0-2.9							
	5-12	25-70-	80	5-18-	45 10-12-	25 1.20-1.40	4.00-14.00	0.07-0.19	0.0-2.9							
	12-18	25-55-	65	5-15-	45 25-30-	45 1.20-1.45	4.00-14.00	0.08-0.13	0.0-2.9							
	18-31	25-25-	65	5-30-	45 30-45-	50 1.20-1.40	4.00-14.00	0.08-0.13	0.0-2.9							
	31-65	25-25-	60	5-30-	40 35-45-	50 1.20-1.45	4.00-14.00	0.05-0.13	0.0-2.9							
Vanella-----	0-6	55-70-	80	5-20-	40	5-10-	20 1.20-1.40	4.00-14.00	0.13-0.18	0.0-2.9						
	6-16	35-70-	80	5-18-	45	5-12-	27 1.20-1.40	4.00-14.00	0.09-0.19	0.0-2.9						
	16-33	30-42-	70	5-38-	45 10-20-	35 1.20-1.40	4.00-14.00	0.09-0.19	0.0-2.9							
	33-45	25-34-	65	5-36-	45 18-30-	35 1.20-1.40	4.00-14.00	0.06-0.19	0.0-2.9							
	45-62	25-34-	65	5-36-	40 20-30-	50 1.20-1.45	4.00-14.00	0.06-0.13	0.0-2.9							
67D: Tumbling-----	0-5	55-70-	80	5-18-	40 10-12-	20 1.20-1.40	4.00-14.00	0.12-0.18	0.0-2.9							
	5-12	25-70-	80	5-18-	45 10-12-	25 1.20-1.40	4.00-14.00	0.07-0.19	0.0-2.9							
	12-18	25-55-	65	5-15-	45 25-30-	45 1.20-1.45	4.00-14.00	0.08-0.13	0.0-2.9							
	18-31	25-25-	65	5-30-	45 30-45-	50 1.20-1.40	4.00-14.00	0.08-0.13	0.0-2.9							
	31-65	25-25-	60	5-30-	40 35-45-	50 1.20-1.45	4.00-14.00	0.05-0.13	0.0-2.9							

Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct
67D: Vanella-----	0-6	55-70- 80	5-20- 40	5-10- 20	1.20-1.40	4.00-14.00	0.13-0.18	0.0-2.9
	6-16	35-70- 80	5-18- 45	5-12- 27	1.20-1.40	4.00-14.00	0.09-0.19	0.0-2.9
	16-33	30-42- 70	5-38- 45	10-20- 35	1.20-1.40	4.00-14.00	0.09-0.19	0.0-2.9
	33-45	25-34- 65	5-36- 45	18-30- 35	1.20-1.40	4.00-14.00	0.06-0.19	0.0-2.9
	45-62	25-34- 65	5-36- 40	20-30- 50	1.20-1.45	4.00-14.00	0.06-0.13	0.0-2.9
67E: Tumbling-----	0-5	55-70- 80	5-18- 40	10-12- 20	1.20-1.40	4.00-14.00	0.12-0.18	0.0-2.9
	5-12	25-70- 80	5-18- 45	10-12- 25	1.20-1.40	4.00-14.00	0.07-0.19	0.0-2.9
	12-18	25-55- 65	5-15- 45	25-30- 45	1.20-1.45	4.00-14.00	0.08-0.13	0.0-2.9
	18-31	25-25- 65	5-30- 45	30-45- 50	1.20-1.40	4.00-14.00	0.08-0.13	0.0-2.9
	31-65	25-25- 60	5-30- 40	35-45- 50	1.20-1.45	4.00-14.00	0.05-0.13	0.0-2.9
Vanella-----	0-6	55-70- 80	5-20- 40	5-10- 20	1.20-1.40	4.00-14.00	0.13-0.18	0.0-2.9
	6-16	35-70- 80	5-18- 45	5-12- 27	1.20-1.40	4.00-14.00	0.09-0.19	0.0-2.9
	16-33	30-42- 70	5-38- 45	10-20- 35	1.20-1.40	4.00-14.00	0.09-0.19	0.0-2.9
	33-45	25-34- 65	5-36- 45	18-30- 35	1.20-1.40	4.00-14.00	0.06-0.19	0.0-2.9
	45-62	25-34- 65	5-36- 40	20-30- 50	1.20-1.45	4.00-14.00	0.06-0.13	0.0-2.9
68D: Tumbling-----	0-5	55-70- 80	5-18- 40	10-12- 20	1.20-1.40	4.00-14.00	0.12-0.18	0.0-2.9
	5-12	25-70- 80	5-18- 45	10-12- 25	1.20-1.40	4.00-14.00	0.07-0.19	0.0-2.9
	12-18	25-55- 65	5-15- 45	25-30- 45	1.20-1.45	4.00-14.00	0.08-0.13	0.0-2.9
	18-31	25-25- 65	5-30- 45	30-45- 50	1.20-1.40	4.00-14.00	0.08-0.13	0.0-2.9
	31-65	25-25- 60	5-30- 40	35-45- 50	1.20-1.45	4.00-14.00	0.05-0.13	0.0-2.9
Vanella-----	0-6	55-70- 80	5-20- 40	5-10- 20	1.20-1.40	4.00-14.00	0.13-0.18	0.0-2.9
	6-16	35-70- 80	5-18- 45	5-12- 27	1.20-1.40	4.00-14.00	0.09-0.19	0.0-2.9
	16-33	30-42- 70	5-38- 45	10-20- 35	1.20-1.40	4.00-14.00	0.09-0.19	0.0-2.9
	33-45	25-34- 65	5-36- 45	18-30- 35	1.20-1.40	4.00-14.00	0.06-0.19	0.0-2.9
	45-62	25-34- 65	5-36- 40	20-30- 50	1.20-1.45	4.00-14.00	0.06-0.13	0.0-2.9

Table 16.—Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
68D: Urban land.								
69A: Tygart-----	0-7	2-15-35	50-64-80	15-21-27	1.20-1.40	4.00-14.00	0.23-0.24	0.0-2.9
	7-12	2-15-35	25-53-70	27-32-40	1.20-1.50	4.00-14.00	0.12-0.15	0.0-2.9
	12-17	2-8-35	20-50-65	35-42-50	1.20-1.50	0.42-1.40	0.11-0.15	3.0-5.9
	17-49	2-18-35	20-35-65	35-47-50	1.20-1.50	0.42-1.40	0.11-0.15	3.0-5.9
	49-65	2-15-35	20-48-65	35-37-50	1.30-1.60	0.42-1.40	0.11-0.15	3.0-5.9
Purdy-----	0-7	2-15-20	45-53-70	27-32-40	1.30-1.50	1.40-4.00	0.16-0.18	3.0-5.9
	7-11	2-15-35	25-47-65	35-38-50	1.30-1.60	0.42-1.40	0.11-0.15	3.0-5.9
	11-32	2-15-35	25-37-65	35-48-50	1.30-1.60	0.42-1.40	0.11-0.15	3.0-5.9
	32-65	2-23-35	25-39-65	35-38-50	1.30-1.60	0.42-1.40	0.10-0.15	3.0-5.9
70. Udorthents, refuse Substratum.								
71. Udorthents-Urban land-----								
72C: Unaka, very stony----	0-13	30-43-50	30-39-50	7-18-25	1.10-1.50	14.00-42.00	0.11-0.16	0.0-2.9
	13-27	30-43-70	15-39-50	7-18-25	1.35-1.50	14.00-42.00	0.07-0.19	0.0-2.9
	27-37	---	---	---	---	0.00-0.07	---	---
Plott, very stony----	0-12	30-43-50	30-39-50	7-18-25	1.10-1.50	14.00-42.00	0.11-0.16	0.0-2.9
	12-48	30-43-70	15-39-50	7-18-25	1.35-1.50	14.00-42.00	0.07-0.19	0.0-2.9
	48-62	30-44-70	15-40-50	2-16-18	1.35-1.50	14.00-42.00	0.03-0.19	0.0-2.9

Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct
72E: Unaka, very stony----	0-13	30-43- 50	30-39- 50	7-18- 25	1.10-1.50	14.00-42.00	0.11-0.16	0.0-2.9
	13-27	30-43- 70	15-39- 50	7-18- 25	1.35-1.50	14.00-42.00	0.07-0.19	0.0-2.9
	27-37	---	---	---	---	0.00-0.07	---	---
Plott, very stony----	0-12	30-43- 50	30-39- 50	7-18- 25	1.10-1.50	14.00-42.00	0.11-0.16	0.0-2.9
	12-48	30-43- 70	15-39- 50	7-18- 25	1.35-1.50	14.00-42.00	0.07-0.19	0.0-2.9
	48-62	30-44- 70	15-40- 50	2-16- 18	1.35-1.50	14.00-42.00	0.03-0.19	0.0-2.9
73C: Vanella, very stony-----	0-4	55-70- 80	5-20- 40	5-10- 20	1.20-1.40	4.00-14.00	0.10-0.16	0.0-2.9
	4-24	35-70- 80	5-18- 45	5-12- 27	1.20-1.40	4.00-14.00	0.09-0.19	0.0-2.9
	24-32	30-42- 70	5-38- 45	10-20- 35	1.20-1.40	4.00-14.00	0.09-0.19	0.0-2.9
	32-51	25-34- 65	5-36- 45	18-30- 35	1.20-1.40	4.00-14.00	0.06-0.19	0.0-2.9
	51-65	25-34- 65	5-36- 40	20-30- 50	1.20-1.40	4.00-14.00	0.06-0.13	0.0-2.9
Tumbling, very stony-----	0-5	55-70- 80	5-18- 40	10-12- 20	1.20-1.45	4.00-14.00	0.10-0.16	0.0-2.9
	5-7	25-45- 80	5-43- 45	10-12- 25	1.20-1.40	4.00-14.00	0.07-0.19	0.0-2.9
	7-15	25-35- 65	5-35- 45	25-30- 45	1.20-1.40	4.00-14.00	0.08-0.13	0.0-2.9
	15-30	25-25- 65	5-30- 45	30-45- 50	1.20-1.45	4.00-14.00	0.08-0.13	0.0-2.9
	30-62	25-25- 60	5-30- 40	35-45- 50	1.20-1.40	4.00-14.00	0.06-0.13	0.0-2.9
	62-65	25-25- 60	5-30- 40	35-45- 50	1.20-1.45	4.00-14.00	0.03-0.13	0.0-2.9
73E: Vanella, very stony-----	0-4	55-70- 80	5-20- 40	5-10- 20	1.20-1.40	4.00-14.00	0.10-0.16	0.0-2.9
	4-24	35-70- 80	5-18- 45	5-12- 27	1.20-1.40	4.00-14.00	0.09-0.19	0.0-2.9
	24-32	30-42- 70	5-38- 45	10-20- 35	1.20-1.40	4.00-14.00	0.09-0.19	0.0-2.9
	32-51	25-34- 65	5-36- 45	18-30- 35	1.20-1.40	4.00-14.00	0.06-0.19	0.0-2.9
	51-65	25-34- 65	5-36- 40	20-30- 50	1.20-1.40	4.00-14.00	0.06-0.13	0.0-2.9



Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct
73E: Tumbling, very stony-----	0-5	55-70- 80	5-18- 40	10-12- 20	1.20-1.45	4.00-14.00	0.10-0.16	0.0-2.9
	5-7	25-45- 80	5-43- 45	10-12- 25	1.20-1.40	4.00-14.00	0.07-0.19	0.0-2.9
	7-15	25-35- 65	5-35- 45	25-30- 45	1.20-1.40	4.00-14.00	0.08-0.13	0.0-2.9
	15-30	25-25- 65	5-30- 45	30-45- 50	1.20-1.45	4.00-14.00	0.08-0.13	0.0-2.9
	30-62	25-25- 60	5-30- 40	35-45- 50	1.20-1.40	4.00-14.00	0.06-0.13	0.0-2.9
	62-65	25-25- 60	5-30- 40	35-45- 50	1.20-1.45	4.00-14.00	0.03-0.13	0.0-2.9
74C: Watahala, very stony-----	0-3	30-44- 50	30-41- 50	10-15- 20	1.30-1.40	14.00-65.00	0.11-0.15	0.0-2.9
	3-13	5-44- 70	15-41- 75	10-15- 25	1.45-1.60	14.00-42.00	0.08-0.18	0.0-2.9
	13-25	2-42- 50	30-38- 75	18-20- 35	1.40-1.55	4.00-14.00	0.03-0.17	0.0-2.9
	25-62	2-12- 40	5-28- 50	43-60- 75	1.25-1.50	1.40-14.00	0.05-0.14	3.0-5.9
Frederick, very stony-----	0-2	30-44- 50	30-41- 50	10-15- 20	1.30-1.40	14.00-65.00	0.10-0.17	0.0-2.9
	2-10	10-44- 70	20-41- 75	10-15- 25	1.45-1.60	14.00-42.00	0.10-0.19	0.0-2.9
	10-15	5-17- 40	10-49- 65	27-34- 55	1.35-1.55	4.00-14.00	0.09-0.15	3.0-5.9
	15-36	5-16- 30	10-26- 55	40-58- 60	1.25-1.50	4.00-14.00	0.08-0.14	3.0-5.9
	36-62	5-12- 30	5-28- 55	40-60- 80	1.25-1.50	4.00-14.00	0.08-0.14	3.0-5.9
74E: Watahala, very stony-----	0-3	30-44- 50	30-41- 50	10-15- 20	1.30-1.40	14.00-65.00	0.11-0.15	0.0-2.9
	3-13	5-44- 70	15-41- 75	10-15- 25	1.45-1.60	14.00-42.00	0.08-0.18	0.0-2.9
	13-25	2-42- 50	30-38- 75	18-20- 35	1.40-1.55	4.00-14.00	0.03-0.17	0.0-2.9
	25-62	2-12- 40	5-28- 50	43-60- 75	1.25-1.50	1.40-14.00	0.05-0.14	3.0-5.9

Table 16.--Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth		Sand		Silt		Clay		Moist bulk density		Saturated hydraulic conductivity		Available water capacity		Linear extensi- bility	
	In	Pct	Pct	Pct	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct	In/in	Pct	Pct	Pct
<b>74E:</b>																
Frederick, very stony-----	0-2	30-44-	50 30-41-	50 10-15-	20 1.30-1.40	14.00-65.00	0.10-0.17	0.0-2.9								
	2-10	10-44-	70 20-41-	75 10-15-	25 1.45-1.60	14.00-42.00	0.10-0.19	0.0-2.9								
	10-15	5-17-	40 10-49-	65 27-34-	55 1.35-1.55	4.00-14.00	0.09-0.15	3.0-5.9								
	15-36	5-16-	30 10-26-	55 40-58-	60 1.25-1.50	4.00-14.00	0.08-0.14	3.0-5.9								
	36-62	5-12-	30 5-28-	55 40-60-	80 1.25-1.50	4.00-14.00	0.08-0.14	3.0-5.9								
<b>74F:</b>																
Watahala, very stony-----	0-3	30-44-	50 30-41-	50 10-15-	20 1.30-1.40	14.00-65.00	0.11-0.15	0.0-2.9								
	3-13	5-44-	70 15-41-	75 10-15-	25 1.45-1.60	14.00-42.00	0.08-0.17	0.0-2.9								
	13-25	2-42-	50 30-38-	75 18-20-	35 1.40-1.55	4.00-14.00	0.05-0.17	0.0-2.9								
	25-62	2-12-	40 5-28-	50 43-60-	75 1.25-1.50	1.40-14.00	0.03-0.14	3.0-5.9								
<b>Frederick, very stony-----</b>																
0-2	30-44-	50 30-41-	50 10-15-	20 1.30-1.40	14.00-65.00	0.10-0.17	0.0-2.9									
2-10	10-44-	70 20-41-	75 10-15-	25 1.45-1.60	14.00-42.00	0.10-0.19	0.0-2.9									
10-15	5-17-	40 10-49-	65 27-34-	55 1.35-1.55	4.00-14.00	0.09-0.15	3.0-5.9									
15-36	5-16-	30 10-26-	55 40-58-	60 1.25-1.50	4.00-14.00	0.08-0.14	3.0-5.9									
36-62	5-12-	30 5-28-	55 40-60-	80 1.25-1.50	4.00-14.00	0.08-0.14	3.0-5.9									
<b>75E:</b>																
Weikert-----	0-4	15-30-	35 50-55-	70 10-15-	25 1.20-1.40	14.00-42.00	0.12-0.18	0.0-2.9								
	4-14	15-27-	35 40-54-	70 10-20-	25 1.20-1.40	14.00-42.00	0.07-0.11	0.0-2.9								
	14-17	15-27-	40 35-54-	70 10-20-	25 1.20-1.60	14.00-42.00	0.03-0.09	0.0-2.9								
	17-27	---	---	---	---	1.40-42.00	---	---								
<b>Berks-----</b>																
0-3	10-30-	35 50-55-	70 10-15-	25 1.20-1.50	4.00-42.00	0.14-0.19	0.0-2.9									
3-9	10-27-	35 35-54-	70 10-20-	25 1.20-1.60	4.00-42.00	0.08-0.19	0.0-2.9									
9-27	10-27-	35 35-54-	70 10-20-	25 1.20-1.60	4.00-42.00	0.05-0.13	0.0-2.9									
27-30	10-27-	45 35-54-	70 10-20-	25 1.20-1.60	14.00-42.00	0.04-0.14	0.0-2.9									
30-40	---	---	---	---	---	1.40-42.00	---	---								

Table 16.--Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct
75E: Rough-----	0-2	15-30-	35 50-55-	70 10-15-	25 1.20-1.40	14.00-141.00	0.08-0.13	0.0-2.9
	2-5	15-27-	35 35-54-	70 10-20-	25 1.20-1.40	14.00-141.00	0.04-0.13	0.0-2.9
	5-7	15-27-	35 35-54-	70 10-20-	25 1.20-1.40	14.00-141.00	0.03-0.11	0.0-2.9
	7-17	---	---	---	---	0.01-4.00	---	---
75F: Weikert-----	0-4	15-30-	35 50-55-	70 10-15-	25 1.20-1.40	14.00-42.00	0.12-0.18	0.0-2.9
	4-14	15-27-	35 40-54-	70 10-20-	25 1.20-1.40	14.00-42.00	0.07-0.11	0.0-2.9
	14-17	15-27-	40 35-54-	70 10-20-	25 1.20-1.60	14.00-42.00	0.03-0.09	0.0-2.9
	17-27	---	---	---	---	1.40-42.00	---	---
Berks-----	0-3	10-30-	35 50-55-	70 10-15-	25 1.20-1.50	4.00-42.00	0.14-0.19	0.0-2.9
	3-9	10-27-	35 35-54-	70 10-20-	25 1.20-1.60	4.00-42.00	0.08-0.19	0.0-2.9
	9-27	10-27-	35 35-54-	70 10-20-	25 1.20-1.60	4.00-42.00	0.05-0.13	0.0-2.9
	27-30 30-40	10-27- ---	45 35-54- ---	70 10-20- ---	25 1.20-1.60  ---	14.00-42.00 1.40-42.00	0.04-0.14  ---	0.0-2.9 ---
Rough-----	0-2	15-30-	35 50-55-	70 10-15-	25 1.20-1.40	14.00-141.00	0.08-0.13	0.0-2.9
	2-5	15-27-	35 35-54-	70 10-20-	25 1.20-1.40	14.00-141.00	0.04-0.13	0.0-2.9
	5-7	15-27-	35 35-54-	70 10-20-	25 1.20-1.40	14.00-141.00	0.03-0.11	0.0-2.9
	7-17	---	---	---	---	0.01-4.00	---	---
76G: Weikert-----	0-4	15-30-	35 50-55-	70 10-15-	25 1.20-1.40	14.00-42.00	0.12-0.18	0.0-2.9
	4-14	15-27-	35 40-54-	70 10-20-	25 1.20-1.40	14.00-42.00	0.07-0.11	0.0-2.9
	14-17	15-27-	40 35-54-	70 10-20-	25 1.20-1.60	14.00-42.00	0.03-0.09	0.0-2.9
	17-27	---	---	---	---	1.40-42.00	---	---
Rough-----	0-2	15-30-	35 50-55-	70 10-15-	25 1.20-1.40	14.00-141.00	0.08-0.13	0.0-2.9
	2-5	15-27-	35 35-54-	70 10-20-	25 1.20-1.40	14.00-141.00	0.04-0.13	0.0-2.9
	5-7	15-27-	35 35-54-	70 10-20-	25 1.20-1.40	14.00-141.00	0.03-0.11	0.0-2.9
	7-17	---	---	---	---	0.01-4.00	---	---

Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Pct
76G: Rock outcrop.									
77C: Wintergreen-----	0-7	30-43- 20-26-	50 30-40- 65 10-29-	50 10-18- 50 35-45-	25 1.20-1.50  55 1.20-1.50	4.00-42.00 4.00-14.00	0.14-0.19  0.12-0.17	0.0-2.9 3.0-5.9	
77D: Wintergreen-----	0-7	30-43- 20-26-	50 30-40- 65 10-29-	50 10-18- 50 35-45-	25 1.20-1.50  55 1.20-1.50	4.00-42.00 4.00-14.00	0.14-0.19  0.12-0.17	0.0-2.9 3.0-5.9	
77E: Wintergreen-----	0-7	30-43- 20-26-	50 30-40- 65 10-29-	50 10-18- 50 35-45-	25 1.20-1.50  55 1.20-1.50	4.00-42.00 4.00-14.00	0.14-0.19  0.12-0.17	0.0-2.9 3.0-5.9	
78E: Wintergreen, very stony-----	0-7	30-43- 20-26-	50 30-40- 65 10-29-	50 10-18- 50 35-45-	25 1.20-1.50  55 1.20-1.50	4.00-42.00 4.00-14.00	0.14-0.19  0.12-0.17	0.0-2.9 3.0-5.9	
79A: Wolfgap-----	0-22 22-52 52-65	35-43- 15-42- 35-68-	50 30-39- 75 10-38- 75 10-20-	50 12-18- 65 18-20- 50 10-12-	20 1.45-1.65  35 1.45-1.65  27 1.45-1.65	4.00-14.00 4.00-14.00 4.00-14.00	0.15-0.21  0.10-0.24  0.05-0.14	0.0-2.9 0.0-2.9 0.0-2.9	
80A: Wolfgap-----	0-22 22-52 52-65	35-43- 15-42- 35-68-	50 30-39- 75 10-38- 75 10-20-	50 12-18- 65 18-20- 50 10-12-	20 1.45-1.65  35 1.45-1.65  27 1.45-1.65	4.00-14.00 4.00-14.00 4.00-14.00	0.15-0.21  0.10-0.24  0.05-0.14	0.0-2.9 0.0-2.9 0.0-2.9	

Table 16.-Physical Soil Properties, Part I--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct
80A:								
Derroc-----	0-3	55-67-	75 10-23-	40	5-10-	15 1.40-1.65	14.00-141.00	0.06-0.12
	3-9	35-67-	75 10-23-	50	5-10-	15 1.40-1.65	14.00-141.00	0.06-0.18
	9-33	35-67-	75 10-23-	50	5-10-	15 1.55-1.70	14.00-141.00	0.04-0.15
	33-63	55-83-	85	5-10- 40	5- 7-	10 1.55-1.70	42.00-141.00	0.03-0.10
Urban land.								
W.								
Water.								

# Soil Survey of Rockbridge County, Virginia

Table 16.—Physical Soil Properties, Part II

(Entries under "Erosion factors--T" apply to the entire profile.  
 Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
			Kw	Kf	T		
	In.	Pct.					
1A: Alonzville, rarely flooded-----	0-5	1.0-3.0	.24	.28	5	6	48
	5-15	0.5-1.5	.28	.37			
	15-55	0.5-1.0	.24	.32			
	55-65	0.0-0.5	.17	.37			
2B: Alonzville-----	0-5	1.0-3.0	.24	.28	5	6	48
	5-15	0.5-1.5	.28	.37			
	15-55	0.5-1.0	.24	.32			
	55-65	0.0-0.5	.17	.37			
3B: Alonzville-----	0-5	1.0-3.0	.24	.28	5	6	48
	5-15	0.5-1.5	.28	.37			
	15-55	0.5-1.0	.24	.32			
	55-65	0.0-0.5	.17	.37			
Urban land.							
4C: Berks-----	0-3	0.5-2.0	.24	.37	2	6	48
	3-9	0.0-0.5	.24	.43			
	9-27	0.0-0.5	.17	.43			
	27-30	0.0-0.5	.10	.55			
	30-40	---	---	---			
Weikert-----	0-4	0.5-2.0	.24	.43	1	6	48
	4-14	0.0-0.5	.17	.49			
	14-17	0.0-0.5	.05	.49			
	17-27	---	---	---			
5A: Botetourt-----	0-7	1.0-3.0	.32	.32	5	5	56
	7-44	0.0-0.5	.28	.28			
	44-53	0.0-0.5	.32	.32			
	53-65	0.0-0.5	.15	.20			
6A: Botetourt-----	0-7	1.0-3.0	.32	.32	5	5	56
	7-44	0.0-0.5	.28	.28			
	44-53	0.0-0.5	.32	.32			
	53-65	0.0-0.5	.15	.20			
Urban land.							
7A: Buckton-----	0-7	1.0-4.0	.37	.37	5	4L	86
	7-48	0.3-1.0	.49	.49			
	48-73	0.3-1.0	.15	.15			
Weaver-----	0-10	1.0-4.0	.32	.32	5	4L	86
	10-49	0.3-1.0	.43	.43			
	49-60	0.3-1.0	.24	.43			

# Soil Survey of Rockbridge County, Virginia

Table 16.--Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind	Wind
			Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct					
8F:							
Caneyville-----	0-3	0.5-2.5	.43	.43	2	6	48
	3-6	0.0-1.0	.49	.49			
	6-12	0.0-0.5	.37	.37			
	12-25	0.0-0.5	.24	.24			
	25-35	---	---	---			
Frederick-----	0-9	1.0-2.5	.37	.37	5	6	48
	9-16	0.0-0.5	.32	.32			
	16-41	0.0-0.5	.17	.17			
	41-74	0.0-0.5	.15	.15			
Rock outcrop.							
9C:							
Carbo, very rocky----	0-3	0.5-2.5	.32	.32	2	6	48
	3-25	0.0-0.5	.17	.17			
	25-35	---	---	---			
Opequon, very rocky-----	0-2	0.5-2.5	.32	.32	1	4	86
	2-14	0.0-0.5	.17	.17			
	14-24	---	---	---			
9E:							
Carbo, very rocky----	0-3	0.5-2.5	.32	.32	2	6	48
	3-25	0.0-0.5	.17	.17			
	25-35	---	---	---			
Opequon, very rocky-----	0-2	0.5-2.5	.32	.32	1	4	86
	2-14	0.0-0.5	.17	.17			
	14-24	---	---	---			
10F:							
Carbo-----	0-3	0.5-2.5	.32	.32	2	6	48
	3-25	0.0-0.5	.17	.17			
	25-35	---	---	---			
Opequon-----	0-2	0.5-2.5	.32	.32	1	4	86
	2-14	0.0-0.5	.17	.17			
	14-24	---	---	---			
Rock outcrop.							
11B:							
Cottonbend-----	0-11	0.5-3.0	.37	.37	4	5	56
	11-20	0.3-1.5	.17	.37			
	20-27	0.0-0.5	.20	.32			
	27-43	0.0-0.5	.32	.32			
	43-54	0.0-0.5	.28	.28			
	54-68	0.0-0.5	.05	.24			
11C:							
Cottonbend-----	0-11	0.5-3.0	.37	.37	4	5	56
	11-20	0.3-1.5	.17	.37			
	20-27	0.0-0.5	.20	.32			
	27-43	0.0-0.5	.32	.32			
	43-54	0.0-0.5	.28	.28			
	54-68	0.0-0.5	.05	.24			

# Soil Survey of Rockbridge County, Virginia

Table 16.--Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
			Kw	Kf	T		
	In	Pct					
12A: Coursey, rarely flooded-----	0-17	1.0-3.0	.28	.28	5	5	56
	17-28	0.0-0.5	.32	.32			
	28-58	0.0-0.5	.32	.32			
	58-63	0.0-0.5	.24	.24			
13B: Coursey-----	0-17	1.0-3.0	.28	.28	5	5	56
	17-28	0.0-0.5	.32	.32			
	28-58	0.0-0.5	.32	.32			
	58-63	0.0-0.5	.24	.24			
14C: Dekalb, very stony---	0-2	0.5-2.0	.10	.17	2	5	56
	2-12	0.0-0.5	.10	.20			
	12-22	0.0-0.5	.05	.20			
	22-32	0.0-0.5	.02	.24			
	32-42	---	---	---			
Lehew, very stony----	0-4	0.5-2.0	.10	.20	2	6	48
	4-24	0.0-0.5	.05	.24			
	24-37	0.0-0.5	.05	.32			
	37-47	---	---	---			
Berks, very stony----	0-3	0.5-2.0	.24	.37	2	6	48
	3-9	0.0-0.5	.24	.43			
	9-27	0.0-0.5	.17	.43			
	27-30	0.0-0.5	.10	.55			
	30-40	---	---	---			
14E: Dekalb, very stony---	0-2	0.5-2.0	.10	.17	2	5	56
	2-12	0.0-0.5	.10	.20			
	12-22	0.0-0.5	.05	.20			
	22-32	0.0-0.5	.02	.24			
	32-42	---	---	---			
Lehew, very stony----	0-4	0.5-2.0	.10	.20	2	6	48
	4-24	0.0-0.5	.05	.24			
	24-37	0.0-0.5	.05	.32			
	37-47	---	---	---			
Berks, very stony----	0-3	0.5-2.0	.24	.37	2	6	48
	3-9	0.0-0.5	.24	.43			
	9-27	0.0-0.5	.17	.43			
	27-30	0.0-0.5	.10	.55			
	30-40	---	---	---			
14F: Dekalb, very stony---	0-2	0.5-2.0	.10	.17	2	5	56
	2-12	0.0-0.5	.10	.20			
	12-22	0.0-0.5	.05	.20			
	22-32	0.0-0.5	.02	.24			
	32-42	---	---	---			
Lehew, very stony----	0-4	0.5-2.0	.10	.20	2	6	48
	4-24	0.0-0.5	.05	.24			
	24-37	0.0-0.5	.05	.32			
	37-47	---	---	---			



# Soil Survey of Rockbridge County, Virginia

Table 16.--Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind	Wind
			Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct					
14F:							
Berks, very stony----	0-3	0.5-2.0	.24	.37	2	6	48
	3-9	0.0-0.5	.24	.43			
	9-27	0.0-0.5	.17	.43			
	27-30	0.0-0.5	.10	.55			
	30-40	---	---	---			
15E:							
Dekalb, extremely stony-----	0-2	0.5-2.0	.10	.17	2	5	56
	2-12	0.0-0.5	.10	.20			
	12-22	0.0-0.5	.05	.20			
	22-32	0.0-0.5	.02	.24			
	32-42	---	---	---			
Lehew, extremely stony-----	0-4	0.5-2.0	.10	.20	2	6	48
	4-24	0.0-0.5	.05	.24			
	24-37	0.0-0.5	.05	.32			
	37-47	---	---	---			
Rock outcrop.							
15F:							
Dekalb, extremely stony-----	0-2	0.5-2.0	.10	.17	2	5	56
	2-12	0.0-0.5	.10	.20			
	12-22	0.0-0.5	.05	.20			
	22-32	0.0-0.5	.02	.24			
	32-42	---	---	---			
Lehew, extremely stony-----	0-4	0.5-2.0	.10	.20	2	6	48
	4-24	0.0-0.5	.05	.24			
	24-37	0.0-0.5	.05	.32			
	37-47	---	---	---			
Rock outcrop.							
16C:							
Dekalb, very stony---	0-2	0.5-2.0	.10	.17	2	5	56
	2-12	0.0-0.5	.10	.20			
	12-22	0.0-0.5	.05	.20			
	22-32	0.0-0.5	.02	.24			
	32-42	---	---	---			
Lily, very stony-----	0-3	0.5-2.0	.15	.15	2	3	86
	3-17	0.0-0.5	.37	.37			
	17-32	0.0-0.5	.37	.37			
	32-42	---	---	---			
16E:							
Dekalb, very stony---	0-2	0.5-2.0	.10	.17	2	5	56
	2-12	0.0-0.5	.10	.20			
	12-22	0.0-0.5	.05	.20			
	22-32	0.0-0.5	.02	.24			
	32-42	---	---	---			
Lily, very stony-----	0-3	0.5-2.0	.15	.15	2	3	86
	3-17	0.0-0.5	.37	.37			
	17-32	0.0-0.5	.37	.37			
	32-42	---	---	---			

# Soil Survey of Rockbridge County, Virginia

Table 16.--Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind	Wind
			Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct					
17F:							
Dekalb, very stony---	0-2	0.5-2.0	.10	.17	2	5	56
	2-12	0.0-0.5	.10	.20			
	12-22	0.0-0.5	.05	.20			
	22-32	0.0-0.5	.02	.24			
	32-42	---	---	---			
Lily, very stony-----	0-3	0.5-2.0	.15	.15	2	3	86
	3-17	0.0-0.5	.37	.37			
	17-32	0.0-0.5	.37	.37			
	32-42	---	---	---			
18A:							
Derroc-----	0-3	1.0-4.0	.05	.15	5	6	48
	3-9	0.5-2.0	.10	.17			
	9-33	0.3-1.0	.10	.24			
	33-63	0.0-0.5	.05	.17			
19C:							
Edneytown-----	0-4	0.5-5.0	.37	.37	5	5	56
	4-8	0.0-0.5	.43	.43			
	8-36	0.0-0.5	.24	.24			
	36-64	0.0-0.5	.24	.24			
	64-74	---	---	---			
19D:							
Edneytown-----	0-4	0.5-5.0	.37	.37	5	5	56
	4-8	0.0-0.5	.43	.43			
	8-36	0.0-0.5	.24	.24			
	36-64	0.0-0.5	.24	.24			
	64-74	---	---	---			
20C:							
Edneytown, very stony-----	0-4	0.5-5.0	.37	.37	5	5	56
	4-8	0.0-0.5	.43	.43			
	8-36	0.0-0.5	.24	.24			
	36-64	0.0-0.5	.24	.24			
	64-74	---	---	---			
Peaks, very stony----	0-6	0.5-2.0	.10	.17	2	6	48
	6-23	0.0-0.5	.10	.32			
	23-29	---	---	---			
	29-39	---	---	---			
20E:							
Edneytown, very stony-----	0-4	0.5-5.0	.37	.37	5	5	56
	4-8	0.0-0.5	.43	.43			
	8-36	0.0-0.5	.24	.24			
	36-64	0.0-0.5	.24	.24			
	64-74	---	---	---			
Peaks, very stony----	0-6	0.5-2.0	.10	.17	2	6	48
	6-23	0.0-0.5	.10	.32			
	23-29	---	---	---			
	29-39	---	---	---			

# Soil Survey of Rockbridge County, Virginia

Table 16.--Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind	Wind
			Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct					
20F:							
Edneytown, very stony-----	0-4	0.5-5.0	.37	.37	5	5	56
	4-8	0.0-0.5	.43	.43			
	8-36	0.0-0.5	.24	.24			
	36-64	0.0-0.5	.24	.24			
	64-74	---	---	---			
Peaks, very stony----	0-6	0.5-2.0	.10	.17	2	6	48
	6-23	0.0-0.5	.10	.32			
	23-29	---	---	---			
	29-39	---	---	---			
21B:							
Escatawba-----	0-3	0.5-3.0	.28	.28	5	6	48
	3-17	0.0-0.5	.37	.37			
	17-30	0.0-0.5	.37	.37			
	30-50	0.0-0.5	.28	.28			
	50-60	0.0-0.5	.15	.28			
21C:							
Escatawba-----	0-3	0.5-3.0	.28	.28	5	6	48
	3-17	0.0-0.5	.37	.37			
	17-30	0.0-0.5	.37	.37			
	30-50	0.0-0.5	.28	.28			
	50-60	0.0-0.5	.15	.28			
22B:							
Frederick-----	0-9	1.0-2.5	.37	.37	5	6	48
	9-16	0.0-0.5	.32	.32			
	16-41	0.0-0.5	.17	.17			
	41-74	0.0-0.5	.15	.15			
22C:							
Frederick-----	0-9	1.0-2.5	.37	.37	5	6	48
	9-16	0.0-0.5	.32	.32			
	16-41	0.0-0.5	.17	.17			
	41-74	0.0-0.5	.15	.15			
22D:							
Frederick-----	0-9	1.0-2.5	.37	.37	5	6	48
	9-16	0.0-0.5	.32	.32			
	16-41	0.0-0.5	.17	.17			
	41-74	0.0-0.5	.15	.15			
23E:							
Frederick-----	0-9	1.0-2.5	.37	.37	5	6	48
	9-16	0.0-0.5	.32	.32			
	16-41	0.0-0.5	.17	.17			
	41-74	0.0-0.5	.15	.15			
Caneyville-----	0-3	0.5-2.5	.43	.43	2	6	48
	3-6	0.0-1.0	.49	.49			
	6-12	0.0-0.5	.37	.37			
	12-25	0.0-0.5	.24	.24			
	25-35	---	---	---			
24C:							
Frederick, very rocky-----	0-9	1.0-2.5	.37	.37	5	6	48
	9-16	0.0-0.5	.32	.32			
	16-41	0.0-0.5	.17	.17			
	41-74	0.0-0.5	.15	.15			

# Soil Survey of Rockbridge County, Virginia

Table 16.--Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind	
			Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct					
24C:							
Caneyville, very rocky-----	0-3	0.5-2.5	.43	.43	2	6	48
	3-6	0.0-1.0	.49	.49			
	6-12	0.0-0.5	.37	.37			
	12-25	0.0-0.5	.24	.24			
	25-35	---	---	---			
24E:							
Frederick, very rocky-----	0-9	1.0-2.5	.37	.37	5	6	48
	9-16	0.0-0.5	.32	.32			
	16-41	0.0-0.5	.17	.17			
	41-74	0.0-0.5	.15	.15			
Caneyville, very rocky-----	0-3	0.5-2.5	.43	.43	2	6	48
	3-6	0.0-1.0	.49	.49			
	6-12	0.0-0.5	.37	.37			
	12-25	0.0-0.5	.24	.24			
	25-35	---	---	---			
25C:							
Frederick-----	0-5	0.5-2.5	.24	.37	5	6	48
	5-11	0.0-1.0	.43	.43			
	11-16	0.0-0.5	.32	.32			
	16-23	0.0-0.5	.17	.17			
	23-62	0.0-0.5	.15	.15			
Watahala-----	0-4	0.5-2.5	.17	.37	4	6	48
	4-28	0.0-0.5	.15	.37			
	28-42	0.0-0.5	.20	.37			
	42-60	0.0-0.5	.17	.17			
25D:							
Frederick-----	0-5	0.5-2.5	.24	.37	5	6	48
	5-11	0.0-1.0	.43	.43			
	11-16	0.0-0.5	.32	.32			
	16-23	0.0-0.5	.17	.17			
	23-62	0.0-0.5	.15	.15			
Watahala-----	0-4	0.5-2.5	.17	.37	4	6	48
	4-28	0.0-0.5	.15	.37			
	28-42	0.0-0.5	.20	.37			
	42-60	0.0-0.5	.17	.17			
25E:							
Frederick-----	0-5	0.5-2.5	.24	.37	5	6	48
	5-11	0.0-1.0	.43	.43			
	11-16	0.0-0.5	.32	.32			
	16-23	0.0-0.5	.17	.17			
	23-62	0.0-0.5	.15	.15			
Watahala-----	0-4	0.5-2.5	.17	.37	4	6	48
	4-28	0.0-0.5	.15	.37			
	28-42	0.0-0.5	.20	.37			
	42-60	0.0-0.5	.17	.17			
26A:							
Gladehill-----	0-5	1.0-5.0	.20	.20	5	3	86
	5-42	0.2-3.0	.28	.28			
	42-72	0.2-3.0	.32	.32			

# Soil Survey of Rockbridge County, Virginia

Table 16.--Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind	Wind
			Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct					
27B:							
Groseclose-----	0-3	0.5-2.0	.37	.37	5	6	48
	3-8	0.3-1.0	.43	.43			
	8-15	0.0-0.5	.37	.37			
	15-55	0.0-0.5	.17	.17			
	55-65	0.0-0.5	.28	.28			
27C:							
Groseclose-----	0-3	0.5-2.0	.37	.37	5	6	48
	3-8	0.3-1.0	.43	.43			
	8-15	0.0-0.5	.37	.37			
	15-55	0.0-0.5	.17	.17			
	55-65	0.0-0.5	.28	.28			
27D:							
Groseclose-----	0-3	0.5-2.0	.37	.37	5	6	48
	3-8	0.3-1.0	.43	.43			
	8-15	0.0-0.5	.37	.37			
	15-55	0.0-0.5	.17	.17			
	55-65	0.0-0.5	.28	.28			
28E:							
Groseclose-----	0-3	0.5-2.0	.37	.37	5	6	48
	3-8	0.3-1.0	.43	.43			
	8-15	0.0-0.5	.37	.37			
	15-55	0.0-0.5	.17	.17			
	55-65	0.0-0.5	.28	.28			
Needmore-----	0-5	0.5-2.5	.43	.43	3	6	48
	5-21	0.0-0.5	.20	.20			
	21-33	0.0-0.5	.20	.37			
	33-43	---	---	---			
29C:							
Groseclose-----	0-3	0.5-2.0	.37	.37	5	6	48
	3-8	0.3-1.0	.43	.43			
	8-15	0.0-0.5	.37	.37			
	15-55	0.0-0.5	.17	.17			
	55-65	0.0-0.5	.28	.28			
Needmore-----	0-5	0.5-2.5	.43	.43	3	6	48
	5-21	0.0-0.5	.20	.20			
	21-33	0.0-0.5	.20	.37			
	33-43	---	---	---			
Urban land.							
30A:							
Holly-----	0-4	1.0-5.0	.28	.28	5	6	48
	4-42	0.3-1.0	.43	.43			
	42-65	0.3-1.0	.43	.43			
Orrville-----	0-9	1.0-4.0	.37	.37	4	6	48
	9-40	0.3-1.0	.43	.43			
	40-50	0.3-1.0	.43	.43			
	50-65	0.3-1.0	.15	.37			
31A:							
Ingledove-----	0-13	1.0-3.0	.28	.28	5	6	48
	13-52	0.5-1.0	.32	.32			
	52-65	0.0-0.5	.32	.32			

# Soil Survey of Rockbridge County, Virginia

Table 16.--Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind	Wind
			Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct					
32A:							
Irongate-----	0-21	1.0-5.0	.17	.17	5	3	86
	21-42	0.5-3.0	.24	.24			
	42-55	0.3-3.0	.24	.24			
	55-62	0.3-3.0	.15	.28			
33C:							
Litz-----	0-6	0.5-2.0	.24	.37	2	7	38
	6-27	0.0-0.5	.10	.49			
	27-32	0.0-0.5	.05	.49			
	32-38	---	---	---			
	38-48	---	---	---			
Chiswell-----	0-10	0.5-2.0	.24	.43	2	7	38
	10-17	0.0-0.5	.10	.49			
	17-27	---	---	---			
Groseclose-----	0-3	0.5-2.0	.37	.37	5	6	48
	3-8	0.3-1.0	.43	.43			
	8-15	0.0-0.5	.37	.37			
	15-55	0.0-0.5	.17	.17			
	55-65	0.0-0.5	.28	.28			
33E:							
Litz-----	0-6	0.5-2.0	.24	.37	2	7	38
	6-27	0.0-0.5	.10	.49			
	27-32	0.0-0.5	.05	.49			
	32-38	---	---	---			
	38-48	---	---	---			
Chiswell-----	0-10	0.5-2.0	.24	.43	2	7	38
	10-17	0.0-0.5	.10	.49			
	17-27	---	---	---			
Groseclose-----	0-3	0.5-2.0	.37	.37	5	6	48
	3-8	0.3-1.0	.43	.43			
	8-15	0.0-0.5	.37	.37			
	15-55	0.0-0.5	.17	.17			
	55-65	0.0-0.5	.28	.28			
33F:							
Litz-----	0-6	0.5-2.0	.24	.37	2	7	38
	6-27	0.0-0.5	.10	.49			
	27-32	0.0-0.5	.05	.49			
	32-38	---	---	---			
	38-48	---	---	---			
Chiswell-----	0-10	0.5-2.0	.24	.43	2	7	38
	10-17	0.0-0.5	.10	.49			
	17-27	---	---	---			
Groseclose-----	0-3	0.5-2.0	.37	.37	5	6	48
	3-8	0.3-1.0	.43	.43			
	8-15	0.0-0.5	.37	.37			
	15-55	0.0-0.5	.17	.17			
	55-65	0.0-0.5	.28	.28			
34C:							
Litz, very stony----	0-6	0.5-2.0	.24	.37	2	7	38
	6-27	0.0-0.5	.10	.49			
	27-32	0.0-0.5	.05	.49			
	32-38	---	---	---			
	38-48	---	---	---			

# Soil Survey of Rockbridge County, Virginia

Table 16.--Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
			Kw	Kf	T		
	In	Pct					
34C: Needmore, very stony-----	0-5	0.5-2.5	.43	.43	3	6	48
	5-21	0.0-0.5	.20	.20			
	21-33	0.0-0.5	.20	.37			
	33-43	---	---	---			
34E: Litz, very stony-----	0-6	0.5-2.0	.24	.37	2	7	38
	6-27	0.0-0.5	.10	.49			
	27-32	0.0-0.5	.05	.49			
	32-38	---	---	---			
	38-48	---	---	---			
Needmore, very stony-----	0-5	0.5-2.5	.43	.43	3	6	48
	5-21	0.0-0.5	.20	.20			
	21-33	0.0-0.5	.20	.37			
	33-43	---	---	---			
34F: Litz, very stony-----	0-6	0.5-2.0	.24	.37	2	7	38
	6-27	0.0-0.5	.10	.49			
	27-32	0.0-0.5	.05	.49			
	32-38	---	---	---			
	38-48	---	---	---			
Needmore, very stony-----	0-5	0.5-2.5	.43	.43	3	6	48
	5-21	0.0-0.5	.20	.20			
	21-33	0.0-0.5	.20	.37			
	33-43	---	---	---			
35C: Lodi-----	0-7	0.5-2.5	.17	.24	5	5	56
	7-19	0.0-0.5	.32	.32			
	19-31	0.0-0.5	.20	.20			
	31-49	0.0-0.5	.15	.28			
	49-67	0.0-0.5	.28	.43			
McClung-----	0-3	0.0-0.5	.28	.28	5	3	86
	3-11	0.0-0.5	.24	.24			
	11-19	0.0-0.5	.20	.20			
	19-65	0.0-0.5	.24	.24			
Lily-----	0-3	0.5-2.0	.15	.15	2	3	86
	3-17	0.0-0.5	.37	.37			
	17-32	0.0-0.5	.37	.37			
	32-42	---	---	---			
35E: Lodi-----	0-7	0.5-2.5	.17	.24	5	5	56
	7-19	0.0-0.5	.32	.32			
	19-31	0.0-0.5	.20	.20			
	31-49	0.0-0.5	.15	.28			
	49-67	0.0-0.5	.28	.43			
McClung-----	0-3	0.0-0.5	.28	.28	5	3	86
	3-11	0.0-0.5	.24	.24			
	11-19	0.0-0.5	.20	.20			
	19-65	0.0-0.5	.24	.24			

# Soil Survey of Rockbridge County, Virginia

Table 16.--Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind	Wind
			Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct					
35E: Lily-----	0-3	0.5-2.0	.15	.15	2	3	86
	3-17	0.0-0.5	.37	.37			
	17-32	0.0-0.5	.37	.37			
	32-42	---	---	---			
36C: Lostcove, extremely stony-----	0-3	0.5-3.0	.05	.17	5	6	48
	3-13	0.5-1.0	.05	.17			
	13-65	0.0-0.5	.05	.32			
37E: Lostcove, very stony-----	0-3	0.5-3.0	.05	.17	5	6	48
	3-13	0.5-1.0	.05	.17			
	13-65	0.0-0.5	.05	.32			
37F: Lostcove, very stony-----	0-3	0.5-3.0	.05	.17	5	6	48
	3-13	0.5-1.0	.05	.17			
	13-65	0.0-0.5	.05	.32			
38E: Marbleyard, extremely stony-----	0-4	0.5-2.0	.05	.15	2	6	48
	4-9	0.0-0.5	.05	.17			
	9-23	0.0-0.5	.05	.24			
	23-36	0.0-0.5	.05	.37			
	36-46	---	---	---			
Rock outcrop.							
39F: Marbleyard, extremely stony-----	0-4	0.5-2.0	.05	.15	2	6	48
	4-9	0.0-0.5	.05	.17			
	9-23	0.0-0.5	.05	.24			
	23-36	0.0-0.5	.05	.37			
	36-46	---	---	---			
Sherando, extremely stony-----	0-7	0.5-2.0	.10	.20	3	5	56
	7-26	0.0-0.5	.10	.20			
	26-43	0.0-0.5	.05	.20			
	43-62	0.0-0.5	.02	.15			
Rock outcrop.							
39G: Marbleyard, extremely stony-----	0-4	0.5-2.0	.05	.15	2	6	48
	4-9	0.0-0.5	.05	.17			
	9-23	0.0-0.5	.05	.24			
	23-36	0.0-0.5	.05	.37			
	36-46	---	---	---			
Sherando, extremely stony-----	0-7	0.5-2.0	.10	.20	3	5	56
	7-26	0.0-0.5	.10	.20			
	26-43	0.0-0.5	.05	.20			
	43-62	0.0-0.5	.02	.15			



# Soil Survey of Rockbridge County, Virginia

Table 16.--Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
			Kw	Kf	T		
	In	Pct					
39G: Rock outcrop.							
40A: Maurertown-----	0-6	1.0-4.0	.37	.37	5	6	48
	6-65	0.0-1.0	.32	.32			
Toms-----	0-7	1.0-4.0	.49	.49	5	5	56
	7-24	0.0-1.0	.28	.28			
	24-36	0.0-1.0	.28	.28			
	36-53	0.0-1.0	.37	.37			
	53-65	0.0-1.0	.37	.37			
41C: McCamy, very stony---	0-4	0.5-4.0	.28	.28	2	5	56
	4-7	0.1-1.0	.37	.37			
	7-27	0.0-0.5	.10	.20			
	27-31	0.0-0.5	.10	.32			
	31-41	---	---	---			
42F: McClung, very stony-----	0-3	0.0-0.5	.28	.28	5	3	86
	3-11	0.0-0.5	.24	.24			
	11-19	0.0-0.5	.20	.20			
	19-65	0.0-0.5	.24	.24			
Caneyville, very stony-----	0-3	0.5-2.5	.43	.43	2	6	48
	3-6	0.0-1.0	.49	.49			
	6-12	0.0-0.5	.37	.37			
	12-25	0.0-0.5	.24	.24			
	25-35	---	---	---			
Dekalb, very stony---	0-2	0.5-2.0	.10	.17	2	5	56
	2-12	0.0-0.5	.10	.20			
	12-22	0.0-0.5	.05	.20			
	22-32	0.0-0.5	.02	.24			
	32-42	---	---	---			
43C: Needmore-----	0-5	0.5-2.5	.43	.43	3	6	48
	5-21	0.0-0.5	.20	.20			
	21-33	0.0-0.5	.20	.37			
	33-43	---	---	---			
Opequon-----	0-2	0.5-2.5	.32	.32	1	4	86
	2-14	0.0-0.5	.17	.17			
	14-24	---	---	---			
43E: Needmore-----	0-5	0.5-2.5	.43	.43	3	6	48
	5-21	0.0-0.5	.20	.20			
	21-33	0.0-0.5	.20	.37			
	33-43	---	---	---			
Opequon-----	0-2	0.5-2.5	.32	.32	1	4	86
	2-14	0.0-0.5	.17	.17			
	14-24	---	---	---			

# Soil Survey of Rockbridge County, Virginia

Table 16.--Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind	Wind
			Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct					
43F:							
Needmore-----	0-5	0.5-2.5	.43	.43	3	6	48
	5-21	0.0-0.5	.20	.20			
	21-33	0.0-0.5	.20	.37			
	33-43	---	---	---			
Opequon-----	0-2	0.5-2.5	.32	.32	1	4	86
	2-14	0.0-0.5	.17	.17			
	14-24	---	---	---			
44E:							
Needmore-----	0-5	0.5-2.5	.43	.43	3	6	48
	5-21	0.0-0.5	.20	.20			
	21-33	0.0-0.5	.20	.37			
	33-43	---	---	---			
Urban land.							
45B:							
Nicelytown-----	0-1	0.5-3.0	.32	.32	5	6	48
	1-14	0.5-2.0	.37	.37			
	14-22	0.0-0.5	.37	.37			
	22-49	0.0-0.5	.32	.32			
	49-65	0.0-0.5	.32	.32			
46B:							
Nicelytown-----	0-1	0.5-3.0	.32	.32	5	6	48
	1-14	0.5-2.0	.37	.37			
	14-22	0.0-0.5	.37	.37			
	22-49	0.0-0.5	.32	.32			
	49-65	0.0-0.5	.32	.32			
Urban land.							
47C:							
Oriskany, extremely stony-----	0-6	0.5-3.0	.10	.15	5	5	56
	6-11	0.0-0.5	.10	.17			
	11-65	0.0-0.5	.10	.37			
Laidig, extremely stony-----	0-4	0.5-3.0	.24	.32	4	6	48
	4-9	0.0-0.5	.32	.49			
	9-32	0.0-0.5	.17	.32			
	32-67	0.0-0.5	.24	.43			
47E:							
Oriskany, extremely stony-----	0-6	0.5-3.0	.10	.15	5	5	56
	6-11	0.0-0.5	.10	.17			
	11-65	0.0-0.5	.10	.37			
Laidig, extremely stony-----	0-4	0.5-3.0	.24	.32	4	6	48
	4-9	0.0-0.5	.32	.49			
	9-32	0.0-0.5	.17	.32			
	32-67	0.0-0.5	.24	.43			
48F:							
Oriskany, extremely stony-----	0-6	0.5-3.0	.10	.15	5	5	56
	6-11	0.0-0.5	.10	.17			
	11-65	0.0-0.5	.10	.37			

# Soil Survey of Rockbridge County, Virginia

Table 16.--Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind	Wind
			Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct					
49C:							
Oriskany, extremely stony-----	0-6	0.5-3.0	.10	.15	5	5	56
	6-11	0.0-0.5	.10	.17			
	11-65	0.0-0.5	.10	.37			
Murrill, extremely stony-----	0-4	0.5-3.0	.15	.28	5	7	38
	4-10	0.0-0.5	.24	.37			
	10-40	0.0-0.5	.24	.37			
	40-65	0.0-0.5	.28	.28			
49E:							
Oriskany, extremely stony-----	0-6	0.5-3.0	.10	.15	5	5	56
	6-11	0.0-0.5	.10	.17			
	11-65	0.0-0.5	.10	.37			
Murrill, extremely stony-----	0-4	0.5-3.0	.15	.28	5	7	38
	4-10	0.0-0.5	.24	.37			
	10-40	0.0-0.5	.24	.37			
	40-65	0.0-0.5	.28	.28			
49F:							
Oriskany, extremely stony-----	0-6	0.5-3.0	.10	.15	5	5	56
	6-11	0.0-0.5	.10	.17			
	11-65	0.0-0.5	.10	.37			
Murrill, extremely stony-----	0-4	0.5-3.0	.15	.28	5	7	38
	4-10	0.0-0.5	.24	.37			
	10-40	0.0-0.5	.24	.37			
	40-65	0.0-0.5	.28	.28			
50E:							
Peaks, very rocky----	0-6	0.5-2.0	.10	.17	2	6	48
	6-23	0.0-0.5	.10	.32			
	23-29	---	---	---			
	29-39	---	---	---			
Edneytown, very rocky-----	0-4	0.5-5.0	.37	.37	5	5	56
	4-8	0.0-0.5	.43	.43			
	8-36	0.0-0.5	.24	.24			
	36-64	0.0-0.5	.24	.24			
	64-74	---	---	---			
50F:							
Peaks, very rocky----	0-6	0.5-2.0	.10	.17	2	6	48
	6-23	0.0-0.5	.10	.32			
	23-29	---	---	---			
	29-39	---	---	---			
Edneytown, very rocky-----	0-4	0.5-5.0	.37	.37	5	5	56
	4-8	0.0-0.5	.43	.43			
	8-36	0.0-0.5	.24	.24			
	36-64	0.0-0.5	.24	.24			
	64-74	---	---	---			

# Soil Survey of Rockbridge County, Virginia

Table 16.--Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind	Wind
			Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct					
51A: Philo-----	0-9	1.0-4.0	.28	.28	5	3	86
	9-23	0.3-1.0	.37	.37			
	23-30	0.3-1.0	.43	.43			
	30-65	0.1-1.0	.20	.43			
52C: Pignut, very stony---	0-7	1.0-3.0	.37	.37	2	5	56
	7-31	0.0-0.5	.43	.43			
	31-37	0.0-0.5	.37	.64			
	37-47	---	---	---			
Myersville, very stony-----	0-3	0.5-2.0	.43	.43	4	5	56
	3-28	0.0-0.5	.37	.43			
	28-50	0.0-0.5	.32	.43			
	50-60	---	---	---			
53E: Pignut, very stony---	0-7	1.0-3.0	.37	.37	2	5	56
	7-31	0.0-0.5	.43	.43			
	31-37	0.0-0.5	.37	.64			
	37-47	---	---	---			
53F: Pignut, very stony---	0-7	1.0-3.0	.37	.37	2	5	56
	7-31	0.0-0.5	.43	.43			
	31-37	0.0-0.5	.37	.64			
	37-47	---	---	---			
54. Pits and Dumps.							
55A: Pope-----	0-8	1.0-4.0	.20	.20	4	3	86
	8-45	0.3-1.0	.24	.32			
	45-65	0.1-1.0	.05	.24			
56G: Rock outcrop.							
Opequon-----	0-2	0.5-2.5	.32	.32	1	4	86
	2-14	0.0-0.5	.17	.17			
	14-24	---	---	---			
57A: Sensabaugh-----	0-9	1.0-4.0	.20	.20	4	6	48
	9-39	0.3-1.0	.17	.32			
	39-61	0.3-1.0	.02	.05			
Lobdell-----	0-15	1.0-4.0	.28	.28	5	6	48
	15-33	0.3-1.0	.37	.37			
	33-65	0.3-1.0	.24	.24			
Derroc-----	0-3	1.0-4.0	.05	.15	5	6	48
	3-9	0.5-2.0	.10	.17			
	9-33	0.3-1.0	.10	.24			
	33-63	0.0-0.5	.05	.17			

# Soil Survey of Rockbridge County, Virginia

Table 16.--Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind	Wind
			Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct					
58B: Shottower-----	0-7	0.5-3.0	.20	.24	4	3	86
	7-15	0.0-0.5	.28	.28			
	15-31	0.0-0.5	.20	.20			
	31-50	0.0-0.5	.10	.20			
	50-62	0.0-0.5	.05	.17			
58C: Shottower-----	0-7	0.5-3.0	.20	.24	4	3	86
	7-15	0.0-0.5	.28	.28			
	15-31	0.0-0.5	.20	.20			
	31-50	0.0-0.5	.10	.20			
	50-62	0.0-0.5	.05	.17			
58D: Shottower-----	0-7	0.5-3.0	.20	.24	4	3	86
	7-15	0.0-0.5	.28	.28			
	15-31	0.0-0.5	.20	.20			
	31-50	0.0-0.5	.10	.20			
	50-62	0.0-0.5	.05	.17			
59E: Shottower-----	0-6	0.5-3.0	.15	.24	5	5	56
	6-15	0.0-0.5	.17	.28			
	15-24	0.0-0.5	.20	.20			
	24-40	0.0-0.5	.10	.20			
	40-62	0.0-0.5	.10	.17			
60C: Shottower-----	0-7	0.5-3.0	.20	.24	4	3	86
	7-15	0.0-0.5	.28	.28			
	15-31	0.0-0.5	.20	.20			
	31-50	0.0-0.5	.10	.20			
	50-62	0.0-0.5	.05	.17			
Urban land.							
61B: Slabtown-----	0-9	1.0-3.0	.37	.37	5	5	56
	9-14	0.3-0.5	.43	.43			
	14-35	0.0-0.3	.43	.43			
	35-64	0.0-0.3	.28	.28			
61C: Slabtown-----	0-9	1.0-3.0	.37	.37	5	5	56
	9-14	0.3-0.5	.43	.43			
	14-35	0.0-0.3	.43	.43			
	35-64	0.0-0.3	.28	.28			
62. Slickens.							
63E: Stumptown, extremely stony-----	0-8	0.5-2.0	.05	.10	2	5	56
	8-17	0.0-0.5	.10	.32			
	17-33	0.0-0.5	.05	.49			
	33-37	---	---	---			

# Soil Survey of Rockbridge County, Virginia

Table 16.--Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind	Wind
			Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct					
63E: Marbleyard, extremely stony-----	0-4	0.5-2.0	.05	.15	2	6	48
	4-9	0.0-0.5	.05	.17			
	9-23	0.0-0.5	.05	.24			
	23-36	0.0-0.5	.05	.37			
	36-46	---	---	---			
Rock outcrop.							
63F: Stumptown, extremely stony-----	0-8	0.5-2.0	.05	.10	2	5	56
	8-17	0.0-0.5	.10	.32			
	17-33	0.0-0.5	.05	.49			
	33-37	---	---	---			
Marbleyard, extremely stony-----	0-4	0.5-2.0	.05	.15	2	6	48
	4-9	0.0-0.5	.05	.17			
	9-23	0.0-0.5	.05	.24			
	23-36	0.0-0.5	.05	.37			
	36-46	---	---	---			
Rock outcrop.							
63G: Stumptown, extremely stony-----	0-8	0.5-2.0	.05	.10	2	5	56
	8-17	0.0-0.5	.10	.32			
	17-33	0.0-0.5	.05	.49			
	33-37	---	---	---			
Marbleyard, extremely stony-----	0-4	0.5-2.0	.05	.15	2	6	48
	4-9	0.0-0.5	.05	.17			
	9-23	0.0-0.5	.05	.24			
	23-36	0.0-0.5	.05	.37			
	36-46	---	---	---			
Rock outcrop.							
64E: Stumptown, very stony-----	0-8	0.5-2.0	.05	.10	2	5	56
	8-17	0.0-0.5	.10	.32			
	17-33	0.0-0.5	.05	.49			
	33-37	---	---	---			
Sylco, very stony----	0-6	0.5-2.0	.17	.28	2	6	48
	6-22	0.3-1.5	.10	.32			
	22-29	0.1-1.0	.05	.43			
	29-39	---	---	---			
64F: Stumptown, very stony-----	0-8	0.5-2.0	.05	.10	2	5	56
	8-17	0.0-0.5	.10	.32			
	17-33	0.0-0.5	.05	.49			
	33-37	---	---	---			

# Soil Survey of Rockbridge County, Virginia

Table 16.--Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
			Kw	Kf	T		
	In	Pct					
64F: Sylco, very stony----	0-6	0.5-2.0	.17	.28	2	6	48
	6-22	0.3-1.5	.10	.32			
	22-29	0.1-1.0	.05	.43			
	29-39	---	---	---			
65E: Sylco, very rocky----	0-6	0.5-2.0	.17	.28	2	6	48
	6-22	0.3-1.5	.10	.32			
	22-29	0.1-1.0	.05	.43			
	29-39	---	---	---			
Marbleyard, very rocky-----	0-4	0.5-2.0	.05	.15	2	6	48
	4-9	0.0-0.5	.05	.17			
	9-23	0.0-0.5	.05	.24			
	23-36	0.0-0.5	.05	.37			
	36-46	---	---	---			
65F: Sylco, very rocky----	0-6	0.5-2.0	.17	.28	2	6	48
	6-22	0.3-1.5	.10	.32			
	22-29	0.1-1.0	.05	.43			
	29-39	---	---	---			
Marbleyard, very rocky-----	0-4	0.5-2.0	.05	.15	2	6	48
	4-9	0.0-0.5	.05	.17			
	9-23	0.0-0.5	.05	.24			
	23-36	0.0-0.5	.05	.37			
	36-46	---	---	---			
65G: Sylco, very rocky----	0-6	0.5-2.0	.17	.28	2	6	48
	6-22	0.3-1.5	.10	.32			
	22-29	0.1-1.0	.05	.43			
	29-39	---	---	---			
Marbleyard, very rocky-----	0-4	0.5-2.0	.05	.15	2	6	48
	4-9	0.0-0.5	.05	.17			
	9-23	0.0-0.5	.05	.24			
	23-36	0.0-0.5	.05	.37			
	36-46	---	---	---			
66C: Thunder, very bouldery-----	0-16	6.0-14	.10	.24	5	8	0
	16-22	5.0-12	.10	.20			
	22-38	0.0-0.5	.05	.32			
	38-46	0.0-0.5	.10	.32			
	46-65	0.0-0.5	.10	.43			
Saunook, very bouldery-----	0-8	6.0-14	.10	.20	5	7	38
	8-13	5.0-12	.28	.28			
	13-54	0.0-0.5	.20	.32			
	54-65	0.0-0.5	.15	.37			

# Soil Survey of Rockbridge County, Virginia

Table 16.--Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind	
			Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct					
66E:							
Thunder, very bouldery-----	0-16	6.0-14	.10	.24	5	8	0
	16-22	5.0-12	.10	.20			
	22-38	0.0-0.5	.05	.32			
	38-46	0.0-0.5	.10	.32			
	46-65	0.0-0.5	.10	.43			
Saunook, very bouldery-----	0-8	6.0-14	.10	.20	5	7	38
	8-13	5.0-12	.28	.28			
	13-54	0.0-0.5	.20	.32			
	54-65	0.0-0.5	.15	.37			
66F:							
Thunder, very bouldery-----	0-16	6.0-14	.10	.24	5	8	0
	16-22	5.0-12	.10	.20			
	22-38	0.0-0.5	.05	.32			
	38-46	0.0-0.5	.10	.32			
	46-65	0.0-0.5	.10	.43			
Saunook, very bouldery-----	0-8	6.0-14	.10	.20	5	7	38
	8-13	5.0-12	.28	.28			
	13-54	0.0-0.5	.20	.32			
	54-65	0.0-0.5	.15	.37			
67C:							
Tumbling-----	0-5	0.5-3.0	.28	.28	5	3	86
	5-12	0.5-1.0	.28	.28			
	12-18	0.0-0.5	.20	.20			
	18-31	0.0-0.5	.20	.20			
	31-65	0.0-0.5	.15	.20			
Vanella-----	0-6	0.5-3.0	.20	.20	4	3	86
	6-16	0.0-1.0	.20	.20			
	16-33	0.0-0.5	.32	.32			
	33-45	0.0-0.5	.28	.28			
	45-62	0.0-0.3	.10	.28			
67D:							
Tumbling-----	0-5	0.5-3.0	.28	.28	5	3	86
	5-12	0.5-1.0	.28	.28			
	12-18	0.0-0.5	.20	.20			
	18-31	0.0-0.5	.20	.20			
	31-65	0.0-0.5	.15	.20			
Vanella-----	0-6	0.5-3.0	.20	.20	4	3	86
	6-16	0.0-1.0	.20	.20			
	16-33	0.0-0.5	.32	.32			
	33-45	0.0-0.5	.28	.28			
	45-62	0.0-0.3	.10	.28			
67E:							
Tumbling-----	0-5	0.5-3.0	.28	.28	5	3	86
	5-12	0.5-1.0	.28	.28			
	12-18	0.0-0.5	.20	.20			
	18-31	0.0-0.5	.20	.20			
	31-65	0.0-0.5	.15	.20			



# Soil Survey of Rockbridge County, Virginia

Table 16.--Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind	Wind
			Kw	Kf	T	erodi- bility group	erodi- bility index
	<u>In</u>	<u>Pct</u>					
67E:							
Vanella-----	0-6	0.5-3.0	.20	.20	4	3	86
	6-16	0.0-1.0	.20	.20			
	16-33	0.0-0.5	.32	.32			
	33-45	0.0-0.5	.28	.28			
	45-62	0.0-0.3	.10	.28			
68D:							
Tumbling-----	0-5	0.5-3.0	.28	.28	5	3	86
	5-12	0.5-1.0	.28	.28			
	12-18	0.0-0.5	.20	.20			
	18-31	0.0-0.5	.20	.20			
	31-65	0.0-0.5	.15	.20			
Vanella-----	0-6	0.5-3.0	.20	.20	4	3	86
	6-16	0.0-1.0	.20	.20			
	16-33	0.0-0.5	.32	.32			
	33-45	0.0-0.5	.28	.28			
	45-62	0.0-0.3	.10	.28			
Urban land.							
69A:							
Tygart-----	0-7	2.0-4.0	.37	.37	5	6	48
	7-12	0.5-1.0	.43	.43			
	12-17	0.5-1.0	.32	.32			
	17-49	0.5-1.0	.28	.28			
	49-65	0.0-0.5	.37	.37			
Purdy-----	0-7	2.0-4.0	.28	.28	5	6	48
	7-11	0.0-0.5	.37	.37			
	11-32	0.0-0.5	.28	.28			
	32-65	0.0-0.5	.37	.37			
70.							
Udorthents, refuse Substratum.							
71.							
Udorthents-Urban land.							
72C:							
Unaka, very stony----	0-13	5.0-15	.15	.20	2	6	48
	13-27	0.0-1.0	.24	.49			
	27-37	---	---	---			
Plott, very stony----	0-12	5.0-15	.15	.20	4	6	48
	12-48	0.0-1.0	.20	.37			
	48-62	0.0-1.0	.17	.37			
72E:							
Unaka, very stony----	0-13	5.0-15	.15	.20	2	6	48
	13-27	0.0-1.0	.24	.49			
	27-37	---	---	---			
Plott, very stony----	0-12	5.0-15	.15	.20	4	6	48
	12-48	0.0-1.0	.20	.37			
	48-62	0.0-1.0	.17	.37			

# Soil Survey of Rockbridge County, Virginia

Table 16.--Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
			Kw	Kf	T		
	In	Pct					
73C:							
Vanella, very stony-----	0-4	0.5-3.0	.10	.20	5	5	56
	4-24	0.0-1.0	.15	.28			
	24-32	0.0-0.5	.17	.32			
	32-51	0.0-0.3	.17	.28			
	51-65	0.0-0.3	.17	.28			
Tumbling, very stony-----	0-5	0.5-3.0	.17	.28	5	5	56
	5-7	0.5-1.0	.24	.37			
	7-15	0.0-0.5	.28	.28			
	15-30	0.0-0.5	.20	.20			
	30-62	0.0-0.5	.10	.20			
	62-65	0.0-0.5	.05	.20			
73E:							
Vanella, very stony-----	0-4	0.5-3.0	.10	.20	5	5	56
	4-24	0.0-1.0	.15	.28			
	24-32	0.0-0.5	.17	.32			
	32-51	0.0-0.3	.17	.28			
	51-65	0.0-0.3	.17	.28			
Tumbling, very stony-----	0-5	0.5-3.0	.17	.28	5	5	56
	5-7	0.5-1.0	.24	.37			
	7-15	0.0-0.5	.28	.28			
	15-30	0.0-0.5	.20	.20			
	30-62	0.0-0.5	.10	.20			
	62-65	0.0-0.5	.05	.20			
74C:							
Watahala, very stony-----	0-3	0.5-2.5	.15	.32	4	6	48
	3-13	0.0-0.5	.20	.37			
	13-25	0.0-0.5	.17	.32			
	25-62	0.0-0.5	.10	.15			
Frederick, very stony-----	0-2	0.5-2.5	.17	.37	5	6	48
	2-10	0.0-0.5	.24	.37			
	10-15	0.0-0.5	.37	.37			
	15-36	0.0-0.5	.15	.15			
	36-62	0.0-0.5	.15	.15			
74E:							
Watahala, very stony-----	0-3	0.5-2.5	.15	.32	4	6	48
	3-13	0.0-0.5	.20	.37			
	13-25	0.0-0.5	.17	.32			
	25-62	0.0-0.5	.10	.15			
Frederick, very stony-----	0-2	0.5-2.5	.17	.37	5	6	48
	2-10	0.0-0.5	.24	.37			
	10-15	0.0-0.5	.37	.37			
	15-36	0.0-0.5	.15	.15			
	36-62	0.0-0.5	.15	.15			

# Soil Survey of Rockbridge County, Virginia

Table 16.—Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind	Wind
			Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct					
74F:							
Watahala, very stony-----	0-3	0.5-2.5	.15	.32	4	6	48
	3-13	0.0-0.5	.20	.37			
	13-25	0.0-0.5	.17	.32			
	25-62	0.0-0.5	.10	.15			
Frederick, very stony-----	0-2	0.5-2.5	.17	.37	5	6	48
	2-10	0.0-0.5	.24	.37			
	10-15	0.0-0.5	.37	.37			
	15-36	0.0-0.5	.15	.15			
	36-62	0.0-0.5	.15	.15			
75E:							
Weikert-----	0-4	0.5-2.0	.24	.43	1	6	48
	4-14	0.0-0.5	.17	.49			
	14-17	0.0-0.5	.05	.49			
	17-27	---	---	---			
Berks-----	0-3	0.5-2.0	.24	.37	2	6	48
	3-9	0.0-0.5	.24	.43			
	9-27	0.0-0.5	.17	.43			
	27-30	0.0-0.5	.10	.55			
	30-40	---	---	---			
Rough-----	0-2	0.5-2.0	.20	.49	1	7	38
	2-5	0.0-0.5	.15	.55			
	5-7	0.0-0.5	.05	.55			
	7-17	---	---	---			
75F:							
Weikert-----	0-4	0.5-2.0	.24	.43	1	6	48
	4-14	0.0-0.5	.17	.49			
	14-17	0.0-0.5	.05	.49			
	17-27	---	---	---			
Berks-----	0-3	0.5-2.0	.24	.37	2	6	48
	3-9	0.0-0.5	.24	.43			
	9-27	0.0-0.5	.17	.43			
	27-30	0.0-0.5	.10	.55			
	30-40	---	---	---			
Rough-----	0-2	0.5-2.0	.20	.49	1	7	38
	2-5	0.0-0.5	.15	.55			
	5-7	0.0-0.5	.05	.55			
	7-17	---	---	---			
76G:							
Weikert-----	0-4	0.5-2.0	.24	.43	1	6	48
	4-14	0.0-0.5	.17	.49			
	14-17	0.0-0.5	.05	.49			
	17-27	---	---	---			
Rough-----	0-2	0.5-2.0	.20	.49	1	7	38
	2-5	0.0-0.5	.15	.55			
	5-7	0.0-0.5	.05	.55			
	7-17	---	---	---			
Rock outcrop.							

# Soil Survey of Rockbridge County, Virginia

Table 16.--Physical Soil Properties, Part II--Continued

Map symbol and soil name	Depth	Organic matter	Erosion factors			Wind	Wind
			Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct					
77C:							
Wintergreen-----	0-7	1.0-2.0	.32	.32	5	5	56
	7-62	0.0-0.5	.24	.28			
77D:							
Wintergreen-----	0-7	1.0-2.0	.32	.32	5	5	56
	7-62	0.0-0.5	.24	.28			
77E:							
Wintergreen-----	0-7	1.0-2.0	.32	.32	5	5	56
	7-62	0.0-0.5	.24	.28			
78E:							
Wintergreen, very stony-----	0-7	1.0-2.0	.32	.32	5	5	56
	7-62	0.0-0.5	.24	.28			
79A:							
Wolfgap-----	0-22	1.0-5.0	.28	.28	5	5	56
	22-52	0.3-3.0	.37	.37			
	52-65	0.3-2.0	.17	.28			
80A:							
Wolfgap-----	0-22	1.0-5.0	.28	.28	5	5	56
	22-52	0.3-3.0	.37	.37			
	52-65	0.3-2.0	.17	.28			
Derroc-----	0-3	1.0-4.0	.05	.15	5	6	48
	3-9	0.5-2.0	.10	.17			
	9-33	0.3-1.0	.10	.24			
	33-63	0.0-0.5	.05	.17			
Urban land.							
W. Water.							

# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
1A: Alonzville, rarely flooded-----	0-5	6.0-14	4.5-10	4.5-6.0	0
	5-15	3.6-10	2.7-7.6	4.5-6.0	0
	15-55	5.6-11	4.2-8.1	4.5-6.0	0
	55-65	2.5-9.6	1.9-7.2	4.5-6.0	0
2B: Alonzville-----	0-5	6.0-14	4.5-10	4.5-6.0	0
	5-15	3.6-10	2.7-7.6	4.5-6.0	0
	15-55	5.6-11	4.2-8.1	4.5-6.0	0
	55-65	2.5-9.6	1.9-7.2	4.5-6.0	0
3B: Alonzville-----	0-5	6.0-14	4.5-10	4.5-6.0	0
	5-15	3.6-10	2.7-7.6	4.5-6.0	0
	15-55	5.6-11	4.2-8.1	4.5-6.0	0
	55-65	2.5-9.6	1.9-7.2	4.5-6.0	0
Urban land.					
4C: Berks-----	0-3	3.6-11	2.7-8.1	4.0-5.5	0
	3-9	2.5-7.4	1.9-5.5	4.0-5.5	0
	9-27	2.5-7.4	1.9-5.5	4.0-5.5	0
	27-30	2.5-7.4	1.9-5.5	4.0-5.5	0
	30-40	---	---	---	---
Weikert-----	0-4	3.6-11	2.7-8.1	4.0-5.5	0
	4-14	2.5-7.4	1.9-5.5	4.0-5.5	0
	14-17	2.5-7.4	1.9-5.5	4.0-5.5	0
	17-27	---	---	---	---
5A: Botetourt-----	0-7	2.9-16	2.2-12	5.1-7.3	0
	7-44	5.6-16	4.2-12	5.1-6.5	0
	44-53	5.6-13	4.2-9.9	5.1-6.5	0
	53-65	5.6-13	4.2-9.9	5.1-6.5	0
6A: Botetourt-----	0-7	2.9-16	2.2-12	5.1-7.3	0
	7-44	5.6-16	4.2-12	5.1-6.5	0
	44-53	5.6-13	4.2-9.9	5.1-6.5	0
	53-65	5.6-13	4.2-9.9	5.1-6.5	0
Urban land.					
7A: Buckton-----	0-7	6.0-14	4.5-10	7.0-8.4	5-15
	7-48	5.2-11	3.9-8.2	7.0-8.4	5-15
	48-73	1.9-11	1.4-8.2	7.0-8.4	5-15
Weaver-----	0-10	6.0-14	5.0-10	7.0-8.4	5-15
	10-49	5.0-11	4.0-8.0	7.0-8.4	5-15
	49-60	2.0-11	1.0-8.0	7.0-8.4	5-40

# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
8F:					
Caneyville-----	0-3	5.0-14	4.0-11	4.5-7.3	0
	3-6	4.0-11	3.0-8.0	4.5-7.3	0
	6-12	13-22	9.0-17	5.6-7.3	0
	12-25	14-22	11-17	5.6-7.3	0
	25-35	---	---	---	---
Frederick-----	0-9	6.0-12	5.0-8.0	4.5-6.0	0
	9-16	8.0-16	6.0-11	4.5-6.0	0
	16-41	10-16	8.0-15	4.5-6.0	0
	41-74	10-21	8.0-16	4.5-6.0	0
Rock outcrop.					
9C:					
Carbo, very rocky----	0-3	11-20	8.0-15	5.6-7.3	0
	3-25	21-29	16-22	5.6-7.8	0
	25-35	---	---	---	---
Opequon, very rocky-----	0-2	12-20	9.0-15	5.6-7.8	0
	2-14	11-27	8.0-21	5.6-7.8	0
	14-24	---	---	---	---
9E:					
Carbo, very rocky----	0-3	11-20	8.0-15	5.6-7.3	0
	3-25	21-29	16-22	5.6-7.8	0
	25-35	---	---	---	---
Opequon, very rocky-----	0-2	12-20	9.0-15	5.6-7.8	0
	2-14	11-27	8.0-21	5.6-7.8	0
	14-24	---	---	---	---
10F:					
Carbo-----	0-3	11-20	8.0-15	5.6-7.3	0
	3-25	21-29	16-22	5.6-7.8	0
	25-35	---	---	---	---
Opequon-----	0-2	12-20	9.0-15	5.6-7.8	0
	2-14	11-27	8.0-21	5.6-7.8	0
	14-24	---	---	---	---
Rock outcrop.					
11B:					
Cottonbend-----	0-11	4.0-13	3.0-10	4.5-6.5	0
	11-20	3.0-10	2.0-8.0	4.5-6.5	0
	20-27	5.0-10	3.0-7.0	4.5-6.5	0
	27-43	5.0-10	3.0-7.0	4.5-6.5	0
	43-54	5.0-10	3.0-7.0	4.5-6.0	0
	54-68	5.0-14	4.0-10	4.5-6.0	0
11C:					
Cottonbend-----	0-11	4.0-13	3.0-10	4.5-6.5	0
	11-20	3.0-10	2.0-8.0	4.5-6.5	0
	20-27	5.0-10	3.0-7.0	4.5-6.5	0
	27-43	5.0-10	3.0-7.0	4.5-6.5	0
	43-54	5.0-10	3.0-7.0	4.5-6.0	0
	54-68	5.0-14	4.0-10	4.5-6.0	0

# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
12A: Coursey, rarely flooded-----	0-17	4.0-14	3.0-10	4.0-5.5	0
	17-28	5.0-10	3.0-7.0	4.0-5.5	0
	28-58	5.0-10	3.0-7.0	4.0-5.5	0
	58-63	5.0-10	3.0-7.0	4.0-5.5	0
13B: Coursey-----	0-17	4.0-14	3.0-10	4.0-5.5	0
	17-28	5.0-10	3.0-7.0	4.0-5.5	0
	28-58	5.0-10	3.0-7.0	4.0-5.5	0
	58-63	5.0-10	3.0-7.0	4.0-5.5	0
14C: Dekalb, very stony---	0-2	3.1-9.5	2.3-7.1	3.5-5.5	0
	2-12	2.0-6.1	1.5-4.6	3.5-5.5	0
	12-22	2.0-6.1	1.5-4.6	3.5-5.5	0
	22-32	2.0-6.1	1.5-4.6	3.5-5.5	0
	32-42	---	---	---	---
Lehew, very stony---	0-4	2.1-8.2	1.6-6.2	3.5-5.5	0
	4-24	1.2-5.6	0.9-4.2	3.5-5.5	0
	24-37	1.2-5.6	0.9-4.2	3.5-5.5	0
	37-47	---	---	---	---
Berks, very stony---	0-3	3.6-11	2.7-8.1	4.0-5.5	0
	3-9	2.5-7.4	1.9-5.5	4.0-5.5	0
	9-27	2.5-7.4	1.9-5.5	4.0-5.5	0
	27-30	2.5-7.4	1.9-5.5	4.0-5.5	0
	30-40	---	---	---	---
14E: Dekalb, very stony---	0-2	3.1-9.5	2.3-7.1	3.5-5.5	0
	2-12	2.0-6.1	1.5-4.6	3.5-5.5	0
	12-22	2.0-6.1	1.5-4.6	3.5-5.5	0
	22-32	2.0-6.1	1.5-4.6	3.5-5.5	0
	32-42	---	---	---	---
Lehew, very stony---	0-4	2.1-8.2	1.6-6.2	3.5-5.5	0
	4-24	1.2-5.6	0.9-4.2	3.5-5.5	0
	24-37	1.2-5.6	0.9-4.2	3.5-5.5	0
	37-47	---	---	---	---
Berks, very stony---	0-3	3.6-11	2.7-8.1	4.0-5.5	0
	3-9	2.5-7.4	1.9-5.5	4.0-5.5	0
	9-27	2.5-7.4	1.9-5.5	4.0-5.5	0
	27-30	2.5-7.4	1.9-5.5	4.0-5.5	0
	30-40	---	---	---	---
14F: Dekalb, very stony---	0-2	3.1-9.5	2.3-7.1	3.5-5.5	0
	2-12	2.0-6.1	1.5-4.6	3.5-5.5	0
	12-22	2.0-6.1	1.5-4.6	3.5-5.5	0
	22-32	2.0-6.1	1.5-4.6	3.5-5.5	0
	32-42	---	---	---	---
Lehew, very stony---	0-4	2.1-8.2	1.6-6.2	3.5-5.5	0
	4-24	1.2-5.6	0.9-4.2	3.5-5.5	0
	24-37	1.2-5.6	0.9-4.2	3.5-5.5	0
	37-47	---	---	---	---

# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
14F:					
Berks, very stony----	0-3	3.6-11	2.7-8.1	4.0-5.5	0
	3-9	2.5-7.4	1.9-5.5	4.0-5.5	0
	9-27	2.5-7.4	1.9-5.5	4.0-5.5	0
	27-30	2.5-7.4	1.9-5.5	4.0-5.5	0
	30-40	---	---	---	---
15E:					
Dekalb, extremely stony-----	0-2	3.1-9.5	2.3-7.1	3.5-5.5	0
	2-12	2.0-6.1	1.5-4.6	3.5-5.5	0
	12-22	2.0-6.1	1.5-4.6	3.5-5.5	0
	22-32	2.0-6.1	1.5-4.6	3.5-5.5	0
	32-42	---	---	---	---
Lehew, extremely stony-----	0-4	2.1-8.2	1.6-6.2	3.5-5.5	0
	4-24	1.2-5.6	0.9-4.2	3.5-5.5	0
	24-37	1.2-5.6	0.9-4.2	3.5-5.5	0
	37-47	---	---	---	---
Rock outcrop.					
15F:					
Dekalb, extremely stony-----	0-2	3.1-9.5	2.3-7.1	3.5-5.5	0
	2-12	2.0-6.1	1.5-4.6	3.5-5.5	0
	12-22	2.0-6.1	1.5-4.6	3.5-5.5	0
	22-32	2.0-6.1	1.5-4.6	3.5-5.5	0
	32-42	---	---	---	---
Lehew, extremely stony-----	0-4	2.1-8.2	1.6-6.2	3.5-5.5	0
	4-24	1.2-5.6	0.9-4.2	3.5-5.5	0
	24-37	1.2-5.6	0.9-4.2	3.5-5.5	0
	37-47	---	---	---	---
Rock outcrop.					
16C:					
Dekalb, very stony----	0-2	3.1-9.5	2.3-7.1	3.5-5.5	0
	2-12	2.0-6.1	1.5-4.6	3.5-5.5	0
	12-22	2.0-6.1	1.5-4.6	3.5-5.5	0
	22-32	2.0-6.1	1.5-4.6	3.5-5.5	0
	32-42	---	---	---	---
Lily, very stony----	0-3	2.9-9.5	2.2-7.1	4.0-5.5	0
	3-17	2.0-6.1	1.5-4.6	4.0-5.5	0
	17-32	4.7-9.9	3.5-7.4	4.0-5.5	0
	32-42	---	---	---	---
16E:					
Dekalb, very stony----	0-2	3.1-9.5	2.3-7.1	3.5-5.5	0
	2-12	2.0-6.1	1.5-4.6	3.5-5.5	0
	12-22	2.0-6.1	1.5-4.6	3.5-5.5	0
	22-32	2.0-6.1	1.5-4.6	3.5-5.5	0
	32-42	---	---	---	---
Lily, very stony----	0-3	2.9-9.5	2.2-7.1	4.0-5.5	0
	3-17	2.0-6.1	1.5-4.6	4.0-5.5	0
	17-32	4.7-9.9	3.5-7.4	4.0-5.5	0
	32-42	---	---	---	---



# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
17F:					
Dekalb, very stony---	0-2	3.1-9.5	2.3-7.1	3.5-5.5	0
	2-12	2.0-6.1	1.5-4.6	3.5-5.5	0
	12-22	2.0-6.1	1.5-4.6	3.5-5.5	0
	22-32	2.0-6.1	1.5-4.6	3.5-5.5	0
	32-42	---	---	---	---
Lily, very stony-----	0-3	2.9-9.5	2.2-7.1	4.0-5.5	0
	3-17	2.0-6.1	1.5-4.6	4.0-5.5	0
	17-32	4.7-9.9	3.5-7.4	4.0-5.5	0
	32-42	---	---	---	---
18A:					
Derroc-----	0-3	4.0-13	3.0-10	5.6-7.3	0
	3-9	2.0-8.0	2.0-6.0	5.6-7.3	0
	9-33	2.0-6.0	1.0-5.0	5.6-7.3	0
	33-63	1.0-4.0	1.0-3.0	5.6-7.3	0
19C:					
Edneytown-----	0-4	2.0-11	2.0-8.0	4.5-5.5	0
	4-8	1.0-5.0	1.0-4.0	4.5-5.5	0
	8-36	5.0-10	4.0-7.0	4.5-5.5	0
	36-64	1.0-5.0	1.0-4.0	4.5-5.5	0
	64-74	---	---	---	---
19D:					
Edneytown-----	0-4	2.0-11	2.0-8.0	4.5-5.5	0
	4-8	1.0-5.0	1.0-4.0	4.5-5.5	0
	8-36	5.0-10	4.0-7.0	4.5-5.5	0
	36-64	1.0-5.0	1.0-4.0	4.5-5.5	0
	64-74	---	---	---	---
20C:					
Edneytown, very stony-----	0-4	2.0-11	2.0-8.0	4.5-5.5	0
	4-8	1.0-5.0	1.0-4.0	4.5-5.5	0
	8-36	5.0-10	4.0-7.0	4.5-5.5	0
	36-64	1.0-5.0	1.0-4.0	4.5-5.5	0
	64-74	---	---	---	---
Peaks, very stony----	0-6	4.0-13	3.0-9.8	4.5-5.5	0
	6-23	1.2-5.6	0.9-4.2	4.5-5.5	0
	23-29	---	---	---	---
	29-39	---	---	---	---
20E:					
Edneytown, very stony-----	0-4	2.0-11	2.0-8.0	4.5-5.5	0
	4-8	1.0-5.0	1.0-4.0	4.5-5.5	0
	8-36	5.0-10	4.0-7.0	4.5-5.5	0
	36-64	1.0-5.0	1.0-4.0	4.5-5.5	0
	64-74	---	---	---	---
Peaks, very stony----	0-6	4.0-13	3.0-9.8	4.5-5.5	0
	6-23	1.2-5.6	0.9-4.2	4.5-5.5	0
	23-29	---	---	---	---
	29-39	---	---	---	---

# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
20F: Edneytown, very stony-----	0-4	2.0-11	2.0-8.0	4.5-5.5	0
	4-8	1.0-5.0	1.0-4.0	4.5-5.5	0
	8-36	5.0-10	4.0-7.0	4.5-5.5	0
	36-64	1.0-5.0	1.0-4.0	4.5-5.5	0
	64-74	---	---	---	---
Peaks, very stony----	0-6	4.0-13	3.0-9.8	4.5-5.5	0
	6-23	1.2-5.6	0.9-4.2	4.5-5.5	0
	23-29	---	---	---	---
	29-39	---	---	---	---
21B: Escatawba-----	0-3	3.6-13	2.7-9.8	3.5-5.5	0
	3-17	2.5-7.4	1.9-5.5	3.5-5.5	0
	17-30	4.5-9.6	3.4-7.2	4.5-5.5	0
	30-50	8.8-14	6.6-10	4.5-5.5	0
	50-60	8.8-17	6.6-13	4.5-5.5	0
21C: Escatawba-----	0-3	3.6-13	2.7-9.8	3.5-5.5	0
	3-17	2.5-7.4	1.9-5.5	3.5-5.5	0
	17-30	4.5-9.6	3.4-7.2	4.5-5.5	0
	30-50	8.8-14	6.6-10	4.5-5.5	0
	50-60	8.8-17	6.6-13	4.5-5.5	0
22B: Frederick-----	0-9	6.0-12	5.0-8.0	4.5-6.0	0
	9-16	8.0-16	6.0-11	4.5-6.0	0
	16-41	10-16	8.0-15	4.5-6.0	0
	41-74	10-21	8.0-16	4.5-6.0	0
22C: Frederick-----	0-9	6.0-12	5.0-8.0	4.5-6.0	0
	9-16	8.0-16	6.0-11	4.5-6.0	0
	16-41	10-16	8.0-15	4.5-6.0	0
	41-74	10-21	8.0-16	4.5-6.0	0
22D: Frederick-----	0-9	6.0-12	5.0-8.0	4.5-6.0	0
	9-16	8.0-16	6.0-11	4.5-6.0	0
	16-41	10-16	8.0-15	4.5-6.0	0
	41-74	10-21	8.0-16	4.5-6.0	0
23E: Frederick-----	0-9	6.0-12	5.0-8.0	4.5-6.0	0
	9-16	8.0-16	6.0-11	4.5-6.0	0
	16-41	10-16	8.0-15	4.5-6.0	0
	41-74	10-21	8.0-16	4.5-6.0	0
Caneyville-----	0-3	5.0-14	4.0-11	4.5-7.3	0
	3-6	4.0-11	3.0-8.0	4.5-7.3	0
	6-12	13-22	9.0-17	5.6-7.3	0
	12-25	14-22	11-17	5.6-7.3	0
	25-35	---	---	---	---

# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
24C:					
Frederick, very rocky-----	0-9	6.0-12	5.0-8.0	4.5-6.0	0
	9-16	8.0-16	6.0-11	4.5-6.0	0
	16-41	10-16	8.0-15	4.5-6.0	0
	41-74	10-21	8.0-16	4.5-6.0	0
Caneyville, very rocky-----	0-3	5.0-14	4.0-11	4.5-7.3	0
	3-6	4.0-11	3.0-8.0	4.5-7.3	0
	6-12	13-22	9.0-17	5.6-7.3	0
	12-25	14-22	11-17	5.6-7.3	0
	25-35	---	---	---	---
24E:					
Frederick, very rocky-----	0-9	6.0-12	5.0-8.0	4.5-6.0	0
	9-16	8.0-16	6.0-11	4.5-6.0	0
	16-41	10-16	8.0-15	4.5-6.0	0
	41-74	10-21	8.0-16	4.5-6.0	0
Caneyville, very rocky-----	0-3	5.0-14	4.0-11	4.5-7.3	0
	3-6	4.0-11	3.0-8.0	4.5-7.3	0
	6-12	13-22	9.0-17	5.6-7.3	0
	12-25	14-22	11-17	5.6-7.3	0
	25-35	---	---	---	---
25C:					
Frederick-----	0-5	5.0-12	4.0-9.0	4.5-6.0	0
	5-11	4.0-9.0	3.0-7.0	4.5-6.0	0
	11-16	9.0-16	6.0-12	4.5-6.0	0
	16-23	10-16	8.0-12	4.5-6.0	0
	23-62	10-21	8.0-16	4.5-6.0	0
Watahala-----	0-4	4.0-12	3.0-9.0	4.0-5.5	0
	4-28	3.0-7.0	2.0-6.0	4.0-5.5	0
	28-42	5.0-10	3.0-7.0	4.0-5.5	0
	42-60	11-20	8.0-15	4.5-5.5	0
25D:					
Frederick-----	0-5	5.0-12	4.0-9.0	4.5-6.0	0
	5-11	4.0-9.0	3.0-7.0	4.5-6.0	0
	11-16	9.0-16	6.0-12	4.5-6.0	0
	16-23	10-16	8.0-12	4.5-6.0	0
	23-62	10-21	8.0-16	4.5-6.0	0
Watahala-----	0-4	4.0-12	3.0-9.0	4.0-5.5	0
	4-28	3.0-7.0	2.0-6.0	4.0-5.5	0
	28-42	5.0-10	3.0-7.0	4.0-5.5	0
	42-60	11-20	8.0-15	4.5-5.5	0
25E:					
Frederick-----	0-5	5.0-12	4.0-9.0	4.5-6.0	0
	5-11	4.0-9.0	3.0-7.0	4.5-6.0	0
	11-16	9.0-16	6.0-12	4.5-6.0	0
	16-23	10-16	8.0-12	4.5-6.0	0
	23-62	10-21	8.0-16	4.5-6.0	0

# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
25E:					
Watahala-----	0-4	4.0-12	3.0-9.0	4.0-5.5	0
	4-28	3.0-7.0	2.0-6.0	4.0-5.5	0
	28-42	5.0-10	3.0-7.0	4.0-5.5	0
	42-60	11-20	8.0-15	4.5-5.5	0
26A:					
Gladehill-----	0-5	4.0-15	2.0-11	6.1-7.8	0
	5-42	2.0-11	1.0-8.0	6.1-7.8	0
	42-72	2.0-11	1.0-8.0	6.1-7.8	0
27B:					
Groseclose-----	0-3	3.0-11	2.0-8.0	4.5-5.5	0
	3-8	2.0-9.0	2.0-7.0	4.5-5.5	0
	8-15	9.0-16	7.0-12	4.5-5.5	0
	15-55	9.0-16	7.0-12	4.5-5.5	0
	55-65	5.0-14	4.0-10	4.5-5.5	0
27C:					
Groseclose-----	0-3	3.0-11	2.0-8.0	4.5-5.5	0
	3-8	2.0-9.0	2.0-7.0	4.5-5.5	0
	8-15	9.0-16	7.0-12	4.5-5.5	0
	15-55	9.0-16	7.0-12	4.5-5.5	0
	55-65	5.0-14	4.0-10	4.5-5.5	0
27D:					
Groseclose-----	0-3	3.0-11	2.0-8.0	4.5-5.5	0
	3-8	2.0-9.0	2.0-7.0	4.5-5.5	0
	8-15	9.0-16	7.0-12	4.5-5.5	0
	15-55	9.0-16	7.0-12	4.5-5.5	0
	55-65	5.0-14	4.0-10	4.5-5.5	0
28E:					
Groseclose-----	0-3	3.0-11	2.0-8.0	4.5-5.5	0
	3-8	2.0-9.0	2.0-7.0	4.5-5.5	0
	8-15	9.0-16	7.0-12	4.5-5.5	0
	15-55	9.0-16	7.0-12	4.5-5.5	0
	55-65	5.0-14	4.0-10	4.5-5.5	0
Needmore-----	0-5	4.0-12	3.0-9.0	5.1-6.5	0
	5-21	9.0-19	7.0-12	5.1-6.5	0
	21-33	9.0-19	7.0-12	5.1-6.5	0
	33-43	---	---	---	---
29C:					
Groseclose-----	0-3	3.0-11	2.0-8.0	4.5-5.5	0
	3-8	2.0-9.0	2.0-7.0	4.5-5.5	0
	8-15	9.0-16	7.0-12	4.5-5.5	0
	15-55	9.0-16	7.0-12	4.5-5.5	0
	55-65	5.0-14	4.0-10	4.5-5.5	0
Needmore-----	0-5	4.0-12	3.0-9.0	5.1-6.5	0
	5-21	9.0-19	7.0-12	5.1-6.5	0
	21-33	9.0-19	7.0-12	5.1-6.5	0
	33-43	---	---	---	---
Urban land.					
30A:					
Holly-----	0-4	5.0-18	4.0-14	5.6-6.5	0
	4-42	4.0-11	3.0-8.0	5.1-6.5	0
	42-65	2.0-12	1.0-9.0	5.6-6.5	0

# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
30A:					
Orrville-----	0-9	5.0-16	4.0-12	5.1-7.0	0
	9-40	4.0-11	3.0-8.0	5.1-6.5	0
	40-50	2.0-9.0	1.0-7.0	5.1-6.5	0
	50-65	2.0-9.0	1.0-7.0	5.1-6.5	0
31A:					
Ingledove-----	0-13	6.0-14	5.0-10	4.5-7.3	0
	13-52	6.0-11	4.0-8.0	4.5-7.3	0
	52-65	5.0-10	3.0-7.0	5.6-7.3	0
32A:					
Irongate-----	0-21	4.8-16	3.6-12	5.6-7.3	0
	21-42	3.6-11	2.7-8.4	5.6-7.3	0
	42-55	1.8-11	1.4-8.4	5.6-7.3	0
	55-62	1.5-11	1.4-8.4	5.6-7.3	0
33C:					
Litz-----	0-6	4.0-11	3.0-8.0	4.5-6.0	0
	6-27	3.0-10	2.0-7.0	4.5-6.0	0
	27-32	3.0-10	2.0-7.0	4.5-6.0	0
	32-38	---	---	---	---
	38-48	---	---	---	---
Chiswell-----	0-10	4.0-11	3.0-8.0	4.5-6.0	0
	10-17	3.0-8.0	2.0-6.0	4.5-6.0	0
	17-27	---	---	---	---
Groseclose-----	0-3	3.0-11	2.0-8.0	4.5-5.5	0
	3-8	2.0-9.0	2.0-7.0	4.5-5.5	0
	8-15	9.0-16	7.0-12	4.5-5.5	0
	15-55	9.0-16	7.0-12	4.5-5.5	0
	55-65	5.0-14	4.0-10	4.5-5.5	0
33E:					
Litz-----	0-6	4.0-11	3.0-8.0	4.5-6.0	0
	6-27	3.0-10	2.0-7.0	4.5-6.0	0
	27-32	3.0-10	2.0-7.0	4.5-6.0	0
	32-38	---	---	---	---
	38-48	---	---	---	---
Chiswell-----	0-10	4.0-11	3.0-8.0	4.5-6.0	0
	10-17	3.0-8.0	2.0-6.0	4.5-6.0	0
	17-27	---	---	---	---
Groseclose-----	0-3	3.0-11	2.0-8.0	4.5-5.5	0
	3-8	2.0-9.0	2.0-7.0	4.5-5.5	0
	8-15	9.0-16	7.0-12	4.5-5.5	0
	15-55	9.0-16	7.0-12	4.5-5.5	0
	55-65	5.0-14	4.0-10	4.5-5.5	0
33F:					
Litz-----	0-6	4.0-11	3.0-8.0	4.5-6.0	0
	6-27	3.0-10	2.0-7.0	4.5-6.0	0
	27-32	3.0-10	2.0-7.0	4.5-6.0	0
	32-38	---	---	---	---
	38-48	---	---	---	---
Chiswell-----	0-10	4.0-11	3.0-8.0	4.5-6.0	0
	10-17	3.0-8.0	2.0-6.0	4.5-6.0	0
	17-27	---	---	---	---

# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
33F:					
Groseclose-----	0-3	3.0-11	2.0-8.0	4.5-5.5	0
	3-8	2.0-9.0	2.0-7.0	4.5-5.5	0
	8-15	9.0-16	7.0-12	4.5-5.5	0
	15-55	9.0-16	7.0-12	4.5-5.5	0
	55-65	5.0-14	4.0-10	4.5-5.5	0
34C:					
Litz, very stony----	0-6	4.0-11	3.0-8.0	4.5-6.0	0
	6-27	3.0-10	2.0-7.0	4.5-6.0	0
	27-32	3.0-10	2.0-7.0	4.5-6.0	0
	32-38	---	---	---	---
	38-48	---	---	---	---
Needmore, very stony-----	0-5	4.0-12	3.0-9.0	5.1-6.5	0
	5-21	9.0-19	7.0-12	5.1-6.5	0
	21-33	9.0-19	7.0-12	5.1-6.5	0
	33-43	---	---	---	---
34E:					
Litz, very stony----	0-6	4.0-11	3.0-8.0	4.5-6.0	0
	6-27	3.0-10	2.0-7.0	4.5-6.0	0
	27-32	3.0-10	2.0-7.0	4.5-6.0	0
	32-38	---	---	---	---
	38-48	---	---	---	---
Needmore, very stony-----	0-5	4.0-12	3.0-9.0	5.1-6.5	0
	5-21	9.0-19	7.0-12	5.1-6.5	0
	21-33	9.0-19	7.0-12	5.1-6.5	0
	33-43	---	---	---	---
34F:					
Litz, very stony----	0-6	4.0-11	3.0-8.0	4.5-6.0	0
	6-27	3.0-10	2.0-7.0	4.5-6.0	0
	27-32	3.0-10	2.0-7.0	4.5-6.0	0
	32-38	---	---	---	---
	38-48	---	---	---	---
Needmore, very stony-----	0-5	4.0-12	3.0-9.0	5.1-6.5	0
	5-21	9.0-19	7.0-12	5.1-6.5	0
	21-33	9.0-19	7.0-12	5.1-6.5	0
	33-43	---	---	---	---
35C:					
Lodi-----	0-7	2.0-11	2.0-8.0	4.5-5.5	0
	7-19	2.0-7.0	1.0-6.0	4.5-5.5	0
	19-31	9.0-16	7.0-12	4.5-5.5	0
	31-49	9.0-16	7.0-12	4.5-5.5	0
	49-67	3.0-7.0	2.0-8.0	4.5-5.5	0
McClung-----	0-3	1.0-6.0	1.0-5.0	4.0-5.5	0
	3-11	3.0-7.0	2.0-6.0	4.0-5.5	0
	11-19	3.0-8.0	2.0-6.0	4.0-5.5	0
	19-65	5.0-11	3.0-8.0	4.0-5.5	0
Lily-----	0-3	2.9-9.5	2.2-7.1	4.0-5.5	0
	3-17	2.0-6.1	1.5-4.6	4.0-5.5	0
	17-32	4.7-9.9	3.5-7.4	4.0-5.5	0
	32-42	---	---	---	---

# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
35E:					
Lodi-----	0-7	2.0-11	2.0-8.0	4.5-5.5	0
	7-19	2.0-7.0	1.0-6.0	4.5-5.5	0
	19-31	9.0-16	7.0-12	4.5-5.5	0
	31-49	9.0-16	7.0-12	4.5-5.5	0
	49-67	3.0-7.0	2.0-8.0	4.5-5.5	0
McClung-----	0-3	1.0-6.0	1.0-5.0	4.0-5.5	0
	3-11	3.0-7.0	2.0-6.0	4.0-5.5	0
	11-19	3.0-8.0	2.0-6.0	4.0-5.5	0
	19-65	5.0-11	3.0-8.0	4.0-5.5	0
Lily-----	0-3	2.9-9.5	2.2-7.1	4.0-5.5	0
	3-17	2.0-6.1	1.5-4.6	4.0-5.5	0
	17-32	4.7-9.9	3.5-7.4	4.0-5.5	0
	32-42	---	---	---	---
36C:					
Lostcove, extremely stony-----	0-3	2.0-11	2.0-8.0	3.5-5.5	0
	3-13	2.0-7.0	2.0-5.0	3.5-5.5	0
	13-65	4.0-10	3.0-7.0	3.5-5.5	0
37E:					
Lostcove, very stony-----	0-3	2.0-11	2.0-8.0	3.5-5.5	0
	3-13	2.0-7.0	2.0-5.0	3.5-5.5	0
	13-65	4.0-10	3.0-7.0	3.5-5.5	0
37F:					
Lostcove, very stony-----	0-3	2.0-11	2.0-8.0	3.5-5.5	0
	3-13	2.0-7.0	2.0-5.0	3.5-5.5	0
	13-65	4.0-10	3.0-7.0	3.5-5.5	0
38E:					
Marbleyard, extremely stony-----	0-4	2.5-6.1	1.9-4.7	3.5-5.5	0
	4-9	1.8-5.6	1.3-4.2	3.5-5.5	0
	9-23	1.2-4.9	0.9-3.7	3.5-5.5	0
	23-36	3.6-9.5	2.7-7.1	3.5-5.5	0
	36-46	---	---	---	---
Rock outcrop.					
39F:					
Marbleyard, extremely stony-----	0-4	2.5-6.1	1.9-4.7	3.5-5.5	0
	4-9	1.8-5.6	1.3-4.2	3.5-5.5	0
	9-23	1.2-4.9	0.9-3.7	3.5-5.5	0
	23-36	3.6-9.5	2.7-7.1	3.5-5.5	0
	36-46	---	---	---	---
Sherando, extremely stony-----	0-7	2.4-8.2	1.8-6.2	3.5-6.0	0
	7-26	2.5-6.1	1.9-4.6	4.5-5.5	0
	26-43	2.5-6.1	1.9-4.6	4.5-5.5	0
	43-62	1.2-3.6	0.9-2.7	4.5-5.5	0
Rock outcrop.					

# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
39G: Marbleyard, extremely stony-----	0-4	2.5-6.1	1.9-4.7	3.5-5.5	0
	4-9	1.8-5.6	1.3-4.2	3.5-5.5	0
	9-23	1.2-4.9	0.9-3.7	3.5-5.5	0
	23-36	3.6-9.5	2.7-7.1	3.5-5.5	0
	36-46	---	---	---	---
Sherando, extremely stony-----	0-7	2.4-8.2	1.8-6.2	3.5-6.0	0
	7-26	2.5-6.1	1.9-4.6	4.5-5.5	0
	26-43	2.5-6.1	1.9-4.6	4.5-5.5	0
	43-62	1.2-3.6	0.9-2.7	4.5-5.5	0
Rock outcrop.					
40A: Maurertown-----	0-6	12-23	9.0-17	5.6-7.3	0
	6-65	12-23	9.0-17	5.6-7.3	0
Toms-----	0-7	7.5-14	5.6-11	5.6-7.8	0
	7-24	9.9-20	7.4-15	5.6-7.8	0
	24-36	9.9-20	7.4-15	5.6-7.8	0
	36-53	9.9-20	7.4-15	5.6-7.8	0
	53-65	9.9-17	7.4-13	5.6-7.8	0
41C: McCamy, very stony---	0-4	2.9-14	2.2-11	4.5-5.5	0
	4-7	2.0-9.0	1.8-6.8	4.5-5.5	0
	7-27	4.5-9.9	3.4-7.4	4.5-5.5	0
	27-31	4.5-9.9	3.4-7.4	4.5-5.5	0
	31-41	---	---	---	---
42F: McClung, very stony-----	0-3	1.0-6.0	1.0-5.0	4.0-5.5	0
	3-11	3.0-7.0	2.0-6.0	4.0-5.5	0
	11-19	3.0-8.0	2.0-6.0	4.0-5.5	0
	19-65	5.0-11	3.0-8.0	4.0-5.5	0
Caneyville, very stony-----	0-3	5.0-14	4.0-11	4.5-7.3	0
	3-6	4.0-11	3.0-8.0	4.5-7.3	0
	6-12	13-22	9.0-17	5.6-7.3	0
	12-25	14-22	11-17	5.6-7.3	0
	25-35	---	---	---	---
Dekalb, very stony---	0-2	3.1-9.5	2.3-7.1	3.5-5.5	0
	2-12	2.0-6.1	1.5-4.6	3.5-5.5	0
	12-22	2.0-6.1	1.5-4.6	3.5-5.5	0
	22-32	2.0-6.1	1.5-4.6	3.5-5.5	0
	32-42	---	---	---	---
43C: Needmore-----	0-5	4.0-12	3.0-9.0	5.1-6.5	0
	5-21	9.0-19	7.0-12	5.1-6.5	0
	21-33	9.0-19	7.0-12	5.1-6.5	0
	33-43	---	---	---	---
Opequon-----	0-2	12-20	9.0-15	5.6-7.8	0
	2-14	11-27	8.0-21	5.6-7.8	0
	14-24	---	---	---	---



# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
43E:					
Needmore-----	0-5	4.0-12	3.0-9.0	5.1-6.5	0
	5-21	9.0-19	7.0-12	5.1-6.5	0
	21-33	9.0-19	7.0-12	5.1-6.5	0
	33-43	---	---	---	---
Opequon-----	0-2	12-20	9.0-15	5.6-7.8	0
	2-14	11-27	8.0-21	5.6-7.8	0
	14-24	---	---	---	---
43F:					
Needmore-----	0-5	4.0-12	3.0-9.0	5.1-6.5	0
	5-21	9.0-19	7.0-12	5.1-6.5	0
	21-33	9.0-19	7.0-12	5.1-6.5	0
	33-43	---	---	---	---
Opequon-----	0-2	12-20	9.0-15	5.6-7.8	0
	2-14	11-27	8.0-21	5.6-7.8	0
	14-24	---	---	---	---
44E:					
Needmore-----	0-5	4.0-12	3.0-9.0	5.1-6.5	0
	5-21	9.0-19	7.0-12	5.1-6.5	0
	21-33	9.0-19	7.0-12	5.1-6.5	0
	33-43	---	---	---	---
Urban land.					
45B:					
Nicelytown-----	0-1	2.9-14	2.2-10	4.5-5.5	0
	1-14	2.9-11	2.2-8.4	4.5-5.5	0
	14-22	4.5-9.9	3.4-7.4	4.5-5.5	0
	22-49	4.5-9.9	3.4-7.4	4.5-5.5	0
	49-65	4.5-9.9	3.4-7.4	4.5-5.5	0
46B:					
Nicelytown-----	0-1	2.9-14	2.2-10	4.5-5.5	0
	1-14	2.9-11	2.2-8.4	4.5-5.5	0
	14-22	4.5-9.9	3.4-7.4	4.5-5.5	0
	22-49	4.5-9.9	3.4-7.4	4.5-5.5	0
	49-65	4.5-9.9	3.4-7.4	4.5-5.5	0
Urban land.					
47C:					
Oriskany, extremely stony-----	0-6	2.4-11	1.8-7.9	4.5-5.5	0
	6-11	1.2-7.4	0.9-5.5	4.5-5.5	0
	11-65	3.9-9.5	2.9-7.2	4.5-5.5	0
Laidig, extremely stony-----	0-4	3.0-12	2.0-9.0	3.5-5.5	0
	4-9	2.0-6.0	1.0-5.0	3.5-5.5	0
	9-32	5.0-10	3.0-7.0	3.5-5.5	0
	32-67	5.0-9.0	3.0-7.0	3.5-5.5	0
47E:					
Oriskany, extremely stony-----	0-6	2.4-11	1.8-7.9	4.5-5.5	0
	6-11	1.2-7.4	0.9-5.5	4.5-5.5	0
	11-65	3.9-9.5	2.9-7.2	4.5-5.5	0

# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
47E: Laidig, extremely stony-----	0-4	3.0-12	2.0-9.0	3.5-5.5	0
	4-9	2.0-6.0	1.0-5.0	3.5-5.5	0
	9-32	5.0-10	3.0-7.0	3.5-5.5	0
	32-67	5.0-9.0	3.0-7.0	3.5-5.5	0
48F: Oriskany, extremely stony-----	0-6	2.4-11	1.8-7.9	4.5-5.5	0
	6-11	1.2-7.4	0.9-5.5	4.5-5.5	0
	11-65	3.9-9.5	2.9-7.2	4.5-5.5	0
49C: Oriskany, extremely stony-----	0-6	2.4-11	1.8-7.9	4.5-5.5	0
	6-11	1.2-7.4	0.9-5.5	4.5-5.5	0
	11-65	3.9-9.5	2.9-7.2	4.5-5.5	0
Murrill, extremely stony-----	0-4	3.6-12	2.7-8.8	4.5-6.0	0
	4-10	2.5-7.4	1.9-5.5	4.5-6.0	0
	10-40	4.5-9.9	3.4-7.4	4.5-6.0	0
	40-65	6.8-15	5.1-11	4.5-6.0	0
49E: Oriskany, extremely stony-----	0-6	2.4-11	1.8-7.9	4.5-5.5	0
	6-11	1.2-7.4	0.9-5.5	4.5-5.5	0
	11-65	3.9-9.5	2.9-7.2	4.5-5.5	0
Murrill, extremely stony-----	0-4	3.6-12	2.7-8.8	4.5-6.0	0
	4-10	2.5-7.4	1.9-5.5	4.5-6.0	0
	10-40	4.5-9.9	3.4-7.4	4.5-6.0	0
	40-65	6.8-15	5.1-11	4.5-6.0	0
49F: Oriskany, extremely stony-----	0-6	2.4-11	1.8-7.9	4.5-5.5	0
	6-11	1.2-7.4	0.9-5.5	4.5-5.5	0
	11-65	3.9-9.5	2.9-7.2	4.5-5.5	0
Murrill, extremely stony-----	0-4	3.6-12	2.7-8.8	4.5-6.0	0
	4-10	2.5-7.4	1.9-5.5	4.5-6.0	0
	10-40	4.5-9.9	3.4-7.4	4.5-6.0	0
	40-65	6.8-15	5.1-11	4.5-6.0	0
50E: Peaks, very rocky----	0-6	4.0-13	3.0-9.8	4.5-5.5	0
	6-23	1.2-5.6	0.9-4.2	4.5-5.5	0
	23-29	---	---	---	---
	29-39	---	---	---	---
Edneytown, very rocky-----	0-4	2.0-11	2.0-8.0	4.5-5.5	0
	4-8	1.0-5.0	1.0-4.0	4.5-5.5	0
	8-36	5.0-10	4.0-7.0	4.5-5.5	0
	36-64	1.0-5.0	1.0-4.0	4.5-5.5	0
	64-74	---	---	---	---

# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
50F:					
Peaks, very rocky----	0-6	4.0-13	3.0-9.8	4.5-5.5	0
	6-23	1.2-5.6	0.9-4.2	4.5-5.5	0
	23-29	---	---	---	---
	29-39	---	---	---	---
Edneytown, very rocky-----	0-4	2.0-11	2.0-8.0	4.5-5.5	0
	4-8	1.0-5.0	1.0-4.0	4.5-5.5	0
	8-36	5.0-10	4.0-7.0	4.5-5.5	0
	36-64	1.0-5.0	1.0-4.0	4.5-5.5	0
	64-74	---	---	---	---
51A:					
Philo-----	0-9	5.0-14	4.0-10	4.5-6.0	0
	9-23	3.0-7.0	2.0-5.0	4.5-6.0	0
	23-30	3.0-7.0	2.0-5.0	4.5-6.0	0
	30-65	3.0-7.0	2.0-5.0	4.5-6.0	0
52C:					
Pignut, very stony---	0-7	5.0-14	4.0-10	5.1-6.5	0
	7-31	4.0-11	3.0-8.0	5.1-6.5	0
	31-37	3.0-8.0	2.0-6.0	5.1-6.5	0
	37-47	---	---	---	0
Myersville, very stony-----	0-3	2.9-12	2.2-8.6	5.1-6.0	0
	3-28	6.3-13	4.7-10	5.1-6.0	0
	28-50	3.5-12	2.6-9.2	5.1-6.0	0
	50-60	---	---	---	---
53E:					
Pignut, very stony---	0-7	5.0-14	4.0-10	5.1-6.5	0
	7-31	4.0-11	3.0-8.0	5.1-6.5	0
	31-37	3.0-8.0	2.0-6.0	5.1-6.5	0
	37-47	---	---	---	0
53F:					
Pignut, very stony---	0-7	5.0-14	4.0-10	5.1-6.5	0
	7-31	4.0-11	3.0-8.0	5.1-6.5	0
	31-37	3.0-8.0	2.0-6.0	5.1-6.5	0
	37-47	---	---	---	0
54.					
Pits and Dumps.					
55A:					
Pope-----	0-8	4.0-13	3.0-10	3.5-6.0	0
	8-45	2.0-7.0	1.0-5.0	3.5-6.0	0
	45-65	2.0-7.0	1.0-5.0	3.5-6.0	0
56G:					
Rock outcrop.					
Opequon-----	0-2	12-20	9.0-15	5.6-7.8	0
	2-14	11-27	8.0-21	5.6-7.8	0
	14-24	---	---	---	---
57A:					
Sensabaugh-----	0-9	4.0-15	3.0-11	5.6-7.8	0
	9-39	5.0-11	4.0-8.0	5.6-7.8	0
	39-61	4.0-12	3.0-9.0	5.6-7.8	0

# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
57A:					
Lobdell-----	0-15	6.0-16	5.0-12	5.1-7.3	0
	15-33	5.0-9.0	4.0-7.0	5.1-7.3	0
	33-65	4.0-9.0	3.0-7.0	5.6-7.3	0
Derroc-----	0-3	4.0-13	3.0-10	5.6-7.3	0
	3-9	2.0-8.0	2.0-6.0	5.6-7.3	0
	9-33	2.0-6.0	1.0-5.0	5.6-7.3	0
	33-63	1.0-4.0	1.0-3.0	5.6-7.3	0
58B:					
Shottower-----	0-7	2.0-9.0	1.0-7.0	4.0-6.0	0
	7-15	3.0-5.0	1.0-4.0	4.0-6.0	0
	15-31	4.0-7.0	3.0-5.0	4.0-6.0	0
	31-50	4.0-7.0	3.0-5.0	4.0-6.0	0
	50-62	4.0-7.0	3.0-5.0	4.0-6.0	0
58C:					
Shottower-----	0-7	2.0-9.0	1.0-7.0	4.0-6.0	0
	7-15	3.0-5.0	1.0-4.0	4.0-6.0	0
	15-31	4.0-7.0	3.0-5.0	4.0-6.0	0
	31-50	4.0-7.0	3.0-5.0	4.0-6.0	0
	50-62	4.0-7.0	3.0-5.0	4.0-6.0	0
58D:					
Shottower-----	0-7	2.0-9.0	1.0-7.0	4.0-6.0	0
	7-15	3.0-5.0	1.0-4.0	4.0-6.0	0
	15-31	4.0-7.0	3.0-5.0	4.0-6.0	0
	31-50	4.0-7.0	3.0-5.0	4.0-6.0	0
	50-62	4.0-7.0	3.0-5.0	4.0-6.0	0
59E:					
Shottower-----	0-6	2.0-9.0	1.0-7.0	4.0-6.0	0
	6-15	3.0-5.0	1.0-4.0	4.0-6.0	0
	15-24	4.0-7.0	3.0-5.0	4.0-6.0	0
	24-40	4.0-7.0	3.0-5.0	4.0-6.0	0
	40-62	4.0-7.0	3.0-5.0	4.0-6.0	0
60C:					
Shottower-----	0-7	2.0-9.0	1.0-7.0	4.0-6.0	0
	7-15	3.0-5.0	1.0-4.0	4.0-6.0	0
	15-31	4.0-7.0	3.0-5.0	4.0-6.0	0
	31-50	4.0-7.0	3.0-5.0	4.0-6.0	0
	50-62	4.0-7.0	3.0-5.0	4.0-6.0	0
Urban land.					
61B:					
Slabtown-----	0-9	5.0-14	4.0-10	5.6-7.8	0
	9-14	4.0-8.0	3.0-6.0	5.6-7.8	0
	14-35	5.0-9.0	4.0-7.0	5.6-7.8	0
	35-64	9.0-15	7.0-12	5.6-7.8	0
61C:					
Slabtown-----	0-9	5.0-14	4.0-10	5.6-7.8	0
	9-14	4.0-8.0	3.0-6.0	5.6-7.8	0
	14-35	5.0-9.0	4.0-7.0	5.6-7.8	0
	35-64	9.0-15	7.0-12	5.6-7.8	0
62.					
Slickens.					

# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
63E:					
Stumptown, extremely stony-----	0-8	4.0-10	3.0-7.0	4.0-5.5	0
	8-17	4.0-10	3.0-7.0	4.0-5.5	0
	17-33	3.0-8.0	2.0-6.0	4.0-5.5	0
	33-37	---	---	---	0
Marbleyard, extremely stony----	0-4	2.5-6.1	1.9-4.7	3.5-5.5	0
	4-9	1.8-5.6	1.3-4.2	3.5-5.5	0
	9-23	1.2-4.9	0.9-3.7	3.5-5.5	0
	23-36	3.6-9.5	2.7-7.1	3.5-5.5	0
	36-46	---	---	---	---
Rock outcrop.					
63F:					
Stumptown, extremely stony-----	0-8	4.0-10	3.0-7.0	4.0-5.5	0
	8-17	4.0-10	3.0-7.0	4.0-5.5	0
	17-33	3.0-8.0	2.0-6.0	4.0-5.5	0
	33-37	---	---	---	0
Marbleyard, extremely stony----	0-4	2.5-6.1	1.9-4.7	3.5-5.5	0
	4-9	1.8-5.6	1.3-4.2	3.5-5.5	0
	9-23	1.2-4.9	0.9-3.7	3.5-5.5	0
	23-36	3.6-9.5	2.7-7.1	3.5-5.5	0
	36-46	---	---	---	---
Rock outcrop.					
63G:					
Stumptown, extremely stony-----	0-8	4.0-10	3.0-7.0	4.0-5.5	0
	8-17	4.0-10	3.0-7.0	4.0-5.5	0
	17-33	3.0-8.0	2.0-6.0	4.0-5.5	0
	33-37	---	---	---	0
Marbleyard, extremely stony----	0-4	2.5-6.1	1.9-4.7	3.5-5.5	0
	4-9	1.8-5.6	1.3-4.2	3.5-5.5	0
	9-23	1.2-4.9	0.9-3.7	3.5-5.5	0
	23-36	3.6-9.5	2.7-7.1	3.5-5.5	0
	36-46	---	---	---	---
Rock outcrop.					
64E:					
Stumptown, very stony-----	0-8	4.0-10	3.0-7.0	4.0-5.5	0
	8-17	4.0-10	3.0-7.0	4.0-5.5	0
	17-33	3.0-8.0	2.0-6.0	4.0-5.5	0
	33-37	---	---	---	0
Sylco, very stony----	0-6	4.0-11	3.0-8.0	3.5-5.5	0
	6-22	3.0-10	2.0-8.0	3.5-5.5	0
	22-29	3.0-9.0	2.0-7.0	3.5-5.5	0
	29-39	---	---	---	0

# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
64F:					
Stumptown, very stony-----	0-8	4.0-10	3.0-7.0	4.0-5.5	0
	8-17	4.0-10	3.0-7.0	4.0-5.5	0
	17-33	3.0-8.0	2.0-6.0	4.0-5.5	0
	33-37	---	---	---	0
Sylco, very stony----	0-6	4.0-11	3.0-8.0	3.5-5.5	0
	6-22	3.0-10	2.0-8.0	3.5-5.5	0
	22-29	3.0-9.0	2.0-7.0	3.5-5.5	0
	29-39	---	---	---	0
65E:					
Sylco, very rocky----	0-6	4.0-11	3.0-8.0	3.5-5.5	0
	6-22	3.0-10	2.0-8.0	3.5-5.5	0
	22-29	3.0-9.0	2.0-7.0	3.5-5.5	0
	29-39	---	---	---	0
Marbleyard, very rocky-----	0-4	2.5-6.1	1.9-4.7	3.5-5.5	0
	4-9	1.8-5.6	1.3-4.2	3.5-5.5	0
	9-23	1.2-4.9	0.9-3.7	3.5-5.5	0
	23-36	3.6-9.5	2.7-7.1	3.5-5.5	0
	36-46	---	---	---	---
65F:					
Sylco, very rocky----	0-6	4.0-11	3.0-8.0	3.5-5.5	0
	6-22	3.0-10	2.0-8.0	3.5-5.5	0
	22-29	3.0-9.0	2.0-7.0	3.5-5.5	0
	29-39	---	---	---	0
Marbleyard, very rocky-----	0-4	2.5-6.1	1.9-4.7	3.5-5.5	0
	4-9	1.8-5.6	1.3-4.2	3.5-5.5	0
	9-23	1.2-4.9	0.9-3.7	3.5-5.5	0
	23-36	3.6-9.5	2.7-7.1	3.5-5.5	0
	36-46	---	---	---	---
65G:					
Sylco, very rocky----	0-6	4.0-11	3.0-8.0	3.5-5.5	0
	6-22	3.0-10	2.0-8.0	3.5-5.5	0
	22-29	3.0-9.0	2.0-7.0	3.5-5.5	0
	29-39	---	---	---	0
Marbleyard, very rocky-----	0-4	2.5-6.1	1.9-4.7	3.5-5.5	0
	4-9	1.8-5.6	1.3-4.2	3.5-5.5	0
	9-23	1.2-4.9	0.9-3.7	3.5-5.5	0
	23-36	3.6-9.5	2.7-7.1	3.5-5.5	0
	36-46	---	---	---	---
66C:					
Thunder, very bouldery-----	0-16	15-38	11-29	4.5-6.5	0
	16-22	13-34	10-25	4.5-6.5	0
	22-38	5.0-10	4.0-7.0	4.5-6.5	0
	38-46	5.0-11	4.0-8.0	4.5-6.5	0
	46-65	1.0-10	1.0-7.0	4.5-6.5	0

# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
66C: Saunook, very bouldery-----	0-8	13-38	11-29	4.5-6.0	0
	8-13	13-34	10-25	4.5-6.0	0
	13-54	5.0-10	4.0-7.0	4.5-6.5	0
	54-65	2.0-10	1.0-7.0	4.5-6.5	0
66E: Thunder, very bouldery-----	0-16	15-38	11-29	4.5-6.5	0
	16-22	13-34	10-25	4.5-6.5	0
	22-38	5.0-10	4.0-7.0	4.5-6.5	0
	38-46	5.0-11	4.0-8.0	4.5-6.5	0
	46-65	1.0-10	1.0-7.0	4.5-6.5	0
Saunook, very bouldery-----	0-8	13-38	11-29	4.5-6.0	0
	8-13	13-34	10-25	4.5-6.0	0
	13-54	5.0-10	4.0-7.0	4.5-6.5	0
	54-65	2.0-10	1.0-7.0	4.5-6.5	0
66F: Thunder, very bouldery-----	0-16	15-38	11-29	4.5-6.5	0
	16-22	13-34	10-25	4.5-6.5	0
	22-38	5.0-10	4.0-7.0	4.5-6.5	0
	38-46	5.0-11	4.0-8.0	4.5-6.5	0
	46-65	1.0-10	1.0-7.0	4.5-6.5	0
Saunook, very bouldery-----	0-8	13-38	11-29	4.5-6.0	0
	8-13	13-34	10-25	4.5-6.0	0
	13-54	5.0-10	4.0-7.0	4.5-6.5	0
	54-65	2.0-10	1.0-7.0	4.5-6.5	0
67C: Tumbling-----	0-5	2.0-9.0	2.0-7.0	4.5-6.0	0
	5-12	2.0-5.0	2.0-4.0	4.5-6.0	0
	12-18	2.5-6.0	2.0-4.0	4.5-5.5	0
	18-31	3.0-6.0	2.0-5.0	4.5-5.5	0
	31-65	3.5-6.0	3.0-5.0	4.5-5.5	0
Vanella-----	0-6	2.0-12	2.0-9.0	4.5-6.0	0
	6-16	1.0-9.0	1.0-7.0	4.5-5.5	0
	16-33	3.0-10	2.0-7.0	4.5-5.5	0
	33-45	4.5-10	6.0-7.0	4.5-5.5	0
	45-62	5.0-13	4.0-10	4.5-5.5	0
67D: Tumbling-----	0-5	2.0-9.0	2.0-7.0	4.5-6.0	0
	5-12	2.0-5.0	2.0-4.0	4.5-6.0	0
	12-18	2.5-6.0	2.0-4.0	4.5-5.5	0
	18-31	3.0-6.0	2.0-5.0	4.5-5.5	0
	31-65	3.5-6.0	3.0-5.0	4.5-5.5	0
Vanella-----	0-6	2.0-12	2.0-9.0	4.5-6.0	0
	6-16	1.0-9.0	1.0-7.0	4.5-5.5	0
	16-33	3.0-10	2.0-7.0	4.5-5.5	0
	33-45	4.5-10	6.0-7.0	4.5-5.5	0
	45-62	5.0-13	4.0-10	4.5-5.5	0

# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
67E:					
Tumbling-----	0-5	2.0-9.0	2.0-7.0	4.5-6.0	0
	5-12	2.0-5.0	2.0-4.0	4.5-6.0	0
	12-18	2.5-6.0	2.0-4.0	4.5-5.5	0
	18-31	3.0-6.0	2.0-5.0	4.5-5.5	0
	31-65	3.5-6.0	3.0-5.0	4.5-5.5	0
Vanella-----	0-6	2.0-12	2.0-9.0	4.5-6.0	0
	6-16	1.0-9.0	1.0-7.0	4.5-5.5	0
	16-33	3.0-10	2.0-7.0	4.5-5.5	0
	33-45	4.5-10	6.0-7.0	4.5-5.5	0
	45-62	5.0-13	4.0-10	4.5-5.5	0
68D:					
Tumbling-----	0-5	2.0-9.0	2.0-7.0	4.5-6.0	0
	5-12	2.0-5.0	2.0-4.0	4.5-6.0	0
	12-18	2.5-6.0	2.0-4.0	4.5-5.5	0
	18-31	3.0-6.0	2.0-5.0	4.5-5.5	0
	31-65	3.5-6.0	3.0-5.0	4.5-5.5	0
Vanella-----	0-6	2.0-12	2.0-9.0	4.5-6.0	0
	6-16	1.0-9.0	1.0-7.0	4.5-5.5	0
	16-33	3.0-10	2.0-7.0	4.5-5.5	0
	33-45	4.5-10	6.0-7.0	4.5-5.5	0
	45-62	5.0-13	4.0-10	4.5-5.5	0
Urban land.					
69A:					
Tygart-----	0-7	8.0-16	6.0-12	4.5-6.0	0
	7-12	8.0-12	6.0-9.0	3.5-5.5	0
	12-17	10-15	7.0-11	3.5-5.5	0
	17-49	10-15	7.0-11	3.5-5.5	0
	49-65	9.0-14	7.0-10	3.5-5.5	0
Purdy-----	0-7	11-19	8.0-14	3.5-5.5	0
	7-11	9.0-14	7.0-10	3.5-5.5	0
	11-32	9.0-14	7.0-10	3.5-5.5	0
	32-65	9.0-14	7.0-10	3.5-5.5	0
70:					
Udorthents, refuse substratum.					
71.					
Udorthents-Urban land.					
72C:					
Unaka, very stony----	0-13	7.5-20	5.6-15	4.5-5.5	0
	13-27	1.8-4.8	1.4-3.6	4.5-5.5	0
	27-37	---	---	---	---
Plott, very stony----	0-12	7.5-20	5.6-15	4.5-5.5	0
	12-48	1.8-4.8	1.4-3.6	4.5-5.5	0
	48-62	1.8-4.8	1.4-3.6	4.5-5.5	0
72E:					
Unaka, very stony----	0-13	7.5-20	5.6-15	4.5-5.5	0
	13-27	1.8-4.8	1.4-3.6	4.5-5.5	0
	27-37	---	---	---	---



# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
72E:					
Plott, very stony----	0-12	7.5-20	5.6-15	4.5-5.5	0
	12-48	1.8-4.8	1.4-3.6	4.5-5.5	0
	48-62	1.8-4.8	1.4-3.6	4.5-5.5	0
73C:					
Vanella, very stony-----	0-4	2.0-12	2.0-9.0	4.5-6.0	0
	4-24	1.0-9.0	1.0-7.0	4.5-5.5	0
	24-32	3.0-10	2.0-7.0	4.5-5.5	0
	32-51	5.0-9.0	6.0-7.0	4.5-5.5	0
	51-65	5.0-13	4.0-10	4.5-5.5	0
Tumbling, very stony-----	0-5	2.1-9.0	1.6-6.6	4.5-6.0	0
	5-7	2.0-5.0	2.0-4.0	4.5-6.0	0
	7-15	2.5-5.3	1.9-4.2	4.5-5.5	0
	15-30	3.0-6.1	2.2-4.6	4.5-5.5	0
	30-62	3.5-6.1	2.6-4.6	4.5-5.5	0
	62-65	3.5-6.1	2.6-4.6	4.5-5.5	0
73E:					
Vanella, very stony-----	0-4	2.0-12	2.0-9.0	4.5-6.0	0
	4-24	1.0-9.0	1.0-7.0	4.5-5.5	0
	24-32	3.0-10	2.0-7.0	4.5-5.5	0
	32-51	5.0-9.0	6.0-7.0	4.5-5.5	0
	51-65	5.0-13	4.0-10	4.5-5.5	0
Tumbling, very stony-----	0-5	2.1-9.0	1.6-6.6	4.5-6.0	0
	5-7	2.0-5.0	2.0-4.0	4.5-6.0	0
	7-15	2.5-5.3	1.9-4.2	4.5-5.5	0
	15-30	3.0-6.1	2.2-4.6	4.5-5.5	0
	30-62	3.5-6.1	2.6-4.6	4.5-5.5	0
	62-65	3.5-6.1	2.6-4.6	4.5-5.5	0
74C:					
Watahala, very stony-----	0-3	4.0-11	3.0-8.0	4.0-5.5	0
	3-13	3.0-7.0	2.0-6.0	4.0-5.5	0
	13-25	4.0-10	3.0-7.0	4.0-5.5	0
	25-62	11-20	8.0-15	4.5-5.5	0
Frederick, very stony-----	0-2	4.0-11	3.0-8.0	4.0-5.5	0
	2-10	3.0-7.0	2.0-6.0	4.0-5.5	0
	10-15	7.0-15	5.0-11	4.5-6.0	0
	15-36	10-16	8.0-12	4.5-6.0	---
	36-62	10-21	8.0-16	4.5-6.0	---
74E:					
Watahala, very stony-----	0-3	4.0-11	3.0-8.0	4.0-5.5	0
	3-13	3.0-7.0	2.0-6.0	4.0-5.5	0
	13-25	4.0-10	3.0-7.0	4.0-5.5	0
	25-62	11-20	8.0-15	4.5-5.5	0

# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
74E: Frederick, very stony-----	0-2	4.0-11	3.0-8.0	4.0-5.5	0
	2-10	3.0-7.0	2.0-6.0	4.0-5.5	0
	10-15	7.0-15	5.0-11	4.5-6.0	0
	15-36	10-16	8.0-12	4.5-6.0	---
	36-62	10-21	8.0-16	4.5-6.0	---
74F: Watahala, very stony-----	0-3	4.0-11	3.0-8.0	4.0-5.5	0
	3-13	3.0-7.0	2.0-6.0	4.0-5.5	0
	13-25	4.0-10	3.0-7.0	4.0-5.5	0
	25-62	11-20	8.0-15	4.5-5.5	0
Frederick, very stony-----	0-2	4.0-11	3.0-8.0	4.0-5.5	0
	2-10	3.0-7.0	2.0-6.0	4.0-5.5	0
	10-15	7.0-15	5.0-11	4.5-6.0	0
	15-36	10-16	8.0-12	4.5-6.0	---
	36-62	10-21	8.0-16	4.5-6.0	---
75E: Weikert-----	0-4	3.6-11	2.7-8.1	4.0-5.5	0
	4-14	2.5-7.4	1.9-5.5	4.0-5.5	0
	14-17	2.5-7.4	1.9-5.5	4.0-5.5	0
	17-27	---	---	---	---
Berks-----	0-3	3.6-11	2.7-8.1	4.0-5.5	0
	3-9	2.5-7.4	1.9-5.5	4.0-5.5	0
	9-27	2.5-7.4	1.9-5.5	4.0-5.5	0
	27-30	2.5-7.4	1.9-5.5	4.0-5.5	0
	30-40	---	---	---	---
Rough-----	0-2	3.6-11	2.7-8.1	3.5-5.0	0
	2-5	2.5-7.4	1.9-5.5	3.5-5.0	0
	5-7	2.5-7.4	1.9-5.5	3.5-5.0	0
	7-17	---	---	---	---
75F: Weikert-----	0-4	3.6-11	2.7-8.1	4.0-5.5	0
	4-14	2.5-7.4	1.9-5.5	4.0-5.5	0
	14-17	2.5-7.4	1.9-5.5	4.0-5.5	0
	17-27	---	---	---	---
Berks-----	0-3	3.6-11	2.7-8.1	4.0-5.5	0
	3-9	2.5-7.4	1.9-5.5	4.0-5.5	0
	9-27	2.5-7.4	1.9-5.5	4.0-5.5	0
	27-30	2.5-7.4	1.9-5.5	4.0-5.5	0
	30-40	---	---	---	---
Rough-----	0-2	3.6-11	2.7-8.1	3.5-5.0	0
	2-5	2.5-7.4	1.9-5.5	3.5-5.0	0
	5-7	2.5-7.4	1.9-5.5	3.5-5.0	0
	7-17	---	---	---	---
76G: Weikert-----	0-4	3.6-11	2.7-8.1	4.0-5.5	0
	4-14	2.5-7.4	1.9-5.5	4.0-5.5	0
	14-17	2.5-7.4	1.9-5.5	4.0-5.5	0
	17-27	---	---	---	---

# Soil Survey of Rockbridge County, Virginia

Table 17.—Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	Inches	meq/100 g	meq/100 g	pH	Pct
76G:					
Rough-----	0-2	3.6-11	2.7-8.1	3.5-5.0	0
	2-5	2.5-7.4	1.9-5.5	3.5-5.0	0
	5-7	2.5-7.4	1.9-5.5	3.5-5.0	0
	7-17	---	---	---	---
Rock outcrop.					
77C:					
Wintergreen-----	0-7	4.8-11	3.6-8.1	3.6-5.5	0
	7-62	8.8-15	6.6-11	3.6-5.5	0
77D:					
Wintergreen-----	0-7	4.8-11	3.6-8.1	3.6-5.5	0
	7-62	8.8-15	6.6-11	3.6-5.5	0
77E:					
Wintergreen-----	0-7	4.8-11	3.6-8.1	3.6-5.5	0
	7-62	8.8-15	6.6-11	3.6-5.5	0
78E:					
Wintergreen, very stony-----	0-7	4.8-11	3.6-8.1	3.6-5.5	0
	7-62	8.8-15	6.6-11	3.6-5.5	0
79A:					
Wolfgap-----	0-22	5.2-16	3.9-12	6.1-7.8	0
	22-52	5.1-16	3.8-12	6.1-7.8	0
	52-65	3.1-14	2.3-10	6.1-7.8	0
80A:					
Wolfgap-----	0-22	5.2-16	3.9-12	6.1-7.8	0
	22-52	5.1-16	3.8-12	6.1-7.8	0
	52-65	3.1-14	2.3-10	6.1-7.8	0
Derroc-----	0-3	4.0-13	3.0-10	5.6-7.3	0
	3-9	2.0-8.0	2.0-6.0	5.6-7.3	0
	9-33	2.0-6.0	1.0-5.0	5.6-7.3	0
	33-63	1.0-4.0	1.0-3.0	5.6-7.3	0
Urban land.					
W. Water.					

Table 18.—Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the is not a concern or that data were not estimated. Excluded months do not have any limiting factors for water

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding			Frequency	Duration	Frequency	Duration
				Upper limit	Lower limit	Surface water depth							
1A: Alonzville, rarely flooded-----	B	Low	Jan-May Nov-Dec	---	---	---	---	---	---	None	---	None	---
2B: Alonzville-----	B	Medium	Jan-Dec	---	---	---	---	---	---	None	---	None	---
3B: Alonzville-----	B	Medium	Jan-Dec	---	---	---	---	---	---	None	---	None	---
Urban land.													
4C: Berks-----	C	Medium	Jan-Dec	---	---	---	---	---	---	None	---	None	---
Weikert-----	D	Medium	Jan-Dec	---	---	---	---	---	---	None	---	None	---
5A: Botetourt-----	C	Low	Jan-May June July-Sep October Nov-Dec	1.5-2.5 2.5-6.0 --- 2.5-6.0 1.5-2.5	>6.0 >6.0 --- >6.0 >6.0	---	---	---	---	None	---	None	---
6A: Botetourt-----	C	Low	Jan-May June-Oct Nov-Dec	1.5-2.5 --- 1.5-2.5	>6.0 --- >6.0	---	---	---	---	None	---	None	---

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding		
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration
6A: Urban land.									
7A: Buckton-----	B	Low	Jan-May Nov-Dec	---	---	---	---	None	Very bri
Weaver-----	C	Low	Jan-May June October Nov-Dec	1.5-3.0 3.0-6.6 3.0-6.6 1.5-3.0	>6.0 >6.0 >6.0 >6.0	---	---	None None None None	Very bri Very bri Very bri Very bri
8F: Caneyville-----	C	High	Jan-Dec	---	---	---	---	None	---
Frederick-----	B	High	Jan-Dec	---	---	---	---	None	---
Rock outcrop.									
9C: Carbo, very rocky-----	D	Medium	Jan-Dec	---	---	---	---	None	---
Opequon, very rocky-----	C	High	Jan-Dec	---	---	---	---	None	---
9E: Carbo, very rocky-----	D	High	Jan-Dec	---	---	---	---	None	---
Opequon, very rocky-----	C	Very high	Jan-Dec	---	---	---	---	None	---
10F: Carbo-----	D	High	Jan-Dec	---	---	---	---	None	---
Opequon-----	C	Very high	Jan-Dec	---	---	---	---	None	---

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding			Duration	Frequency	Duration
				Upper limit	Lower limit	Surface water depth						
10F: Rock outcrop.												
11B: Cottonbend-----	B	Medium	Jan-Dec	---	---	---				---	None	---
11C: Cottonbend-----	B	Medium	Jan-Dec	---	---	---				---	None	---
12A: Coursey, rarely flooded----	C	Low	Jan-May June July-Sep October Nov-Dec	1.5-2.5 2.5-6.0 2.5-6.0 2.5-6.0 1.5-2.5	>6.0 >6.0 >6.0 >6.0 >6.0	---				---	None None None None None	---
13B: Coursey-----	C	Low	Jan-May June July-Sep October Nov-Dec	1.5-2.5 2.5-6.0 2.5-6.0 2.5-6.0 1.5-2.5	>6.0 >6.0 >6.0 >6.0 >6.0	---				---	None None None None None	---
14C: Dekalb, very stony-----	C	Medium	Jan-Dec	---	---	---				---	None	---
Lehew, very stony-----	C	Medium	Jan-Dec	---	---	---				---	None	---
Berks, very stony-----	C	Medium	Jan-Dec	---	---	---				---	None	---
14E: Dekalb, very stony-----	C	High	Jan-Dec	---	---	---				---	None	---

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding		Frequency	Duration
				Upper limit	Lower limit	Surface water depth	Duration		
				<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>			
14E: Lehew, very stony-----	C	High	Jan-Dec	---	---	---		None	---
Berks, very stony-----	C	High	Jan-Dec	---	---	---		None	---
14F: Dekalb, very stony-----	C	High	Jan-Dec	---	---	---		None	---
Lehew, very stony-----	C	High	Jan-Dec	---	---	---		None	---
Berks, very stony-----	C	High	Jan-Dec	---	---	---		None	---
15E: Dekalb, extremely stony---	C	High	Jan-Dec	---	---	---		None	---
Lehew, extremely stony---	C	High	Jan-Dec	---	---	---		None	---
Rock outcrop.									
15F: Dekalb, extremely stony---	C	High	Jan-Dec	---	---	---		None	---
Lehew, extremely stony---	C	High	Jan-Dec	---	---	---		None	---
Rock outcrop.									
16C: Dekalb, very stony-----	C	High	Jan-Dec	---	---	---		None	---
Lily, very stony-----	B	High	Jan-Dec	---	---	---		None	---
16E: Dekalb, very stony-----	C	High	Jan-Dec	---	---	---		None	---

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding			Duration	Frequency	Duration
				Upper limit	Lower limit	Surface water depth						
				<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>						
16E: Lily, very stony-----	B	High	Jan-Dec	---	---	---				---	None	---
17F: Dekalb, very stony-----	C	High	Jan-Dec	---	---	---				---	None	---
Lily, very stony-----	B	High	Jan-Dec	---	---	---				---	None	---
18A: Derroc-----	B	Very low	Jan-May Nov-Dec	---	---	---				---	None	Very bri
19C: Edneytown-----	B	Medium	Jan-Dec	---	---	---				---	None	Very bri
19D: Edneytown-----	B	High	Jan-Dec	---	---	---				---	None	---
20C: Edneytown, very stony-----	B	Medium	Jan-Dec	---	---	---				---	None	---
Peaks, very stony-----	C	High	Jan-Dec	---	---	---				---	None	---
20E: Edneytown, very stony-----	B	High	Jan-Dec	---	---	---				---	None	---
Peaks, very stony-----	C	High	Jan-Dec	---	---	---				---	None	---
20F: Edneytown, very stony-----	B	High	Jan-Dec	---	---	---				---	None	---
Peaks, very stony-----	C	High	Jan-Dec	---	---	---				---	None	---



Table 18.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding		
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration
				<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>			
21B: Escatawba-----									
	B	Medium	Jan-May	2.5-4.0	4.0-5.0	---	---	None	---
			June-Oct	---	---	---	---	None	---
			Nov-Dec	2.5-4.0	4.0-5.0	---	---	None	---
21C: Escatawba-----									
	B	Medium	Jan-Dec	2.5-4.0	4.0-5.0	---	---	None	---
			June-Oct	---	---	---	---	None	---
			Nov-Dec	2.5-4.0	4.0-5.0	---	---	None	---
22B: Frederick-----									
	B	Medium	Jan-Dec	---	---	---	---	None	---
22C: Frederick-----									
	B	Medium	Jan-Dec	---	---	---	---	None	---
22D: Frederick-----									
	B	High	Jan-Dec	---	---	---	---	None	---
23E: Frederick-----									
	B	High	Jan-Dec	---	---	---	---	None	---
Caneyville-----									
	C	High	Jan-Dec	---	---	---	---	None	---
24C: Frederick, very rocky----									
	B	Medium	Jan-Dec	---	---	---	---	None	---
Caneyville, very rocky----									
	C	Medium	Jan-Dec	---	---	---	---	None	---
24E: Frederick, very rocky----									
	B	High	Jan-Dec	---	---	---	---	None	---
Caneyville, very rocky----									
	C	High	Jan-Dec	---	---	---	---	None	---

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding		
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration
				<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>			
25C: Frederick-----	B	Medium	Jan-Dec	---	---	---	---	None	---
Watahala-----	B	Low	Jan-Dec	---	---	---	---	None	---
25D: Frederick-----	B	High	Jan-Dec	---	---	---	---	None	---
Watahala-----	B	Medium	Jan-Dec	---	---	---	---	None	---
25E: Frederick-----	B	High	Jan-Dec	---	---	---	---	None	---
Watahala-----	B	Medium	Jan-Dec	---	---	---	---	None	---
26A: Gladehill-----	B	Very low	Jan-May Nov-Dec	---	---	---	---	None	Very bri Very bri
27B: Groseclose-----	C	High	Jan-Dec	---	---	---	---	None	---
27C: Groseclose-----	C	High	Jan-Dec	---	---	---	---	None	---
27D: Groseclose-----	C	Very high	Jan-Dec	---	---	---	---	None	---
28E: Groseclose-----	C	Very high	Jan-Dec	---	---	---	---	None	---
Needmore-----	C	High	Jan-Dec	---	---	---	---	None	---

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding			Duration	Frequency	Duration
				Upper limit	Lower limit	Surface water depth						
				Ft.	Ft.	Ft.						
29C: Groseclose-----	C	High	Jan-Dec	---	---	---				---	None	---
Needmore----- Urban land.	C	Medium	Jan-Dec	---	---	---				---	None	---
30A: Holly-----	D	Negligible	Jan-May June-Oct Nov-Dec	0.0-1.0 0.0-1.0 0.0-1.0	>6.0 >6.0 >6.0	0.1-0.5 0.1-0.5 0.1-0.5				Brief Brief Brief	Occasional Occasional Occasional	Very bri --- Very bri
Orrville-----	C	Very low	Jan-May June-Oct Nov-Dec	0.5-1.5 1.5-6.6 0.5-1.5	>6.0 >6.0 >6.0	0.1-0.5 0.1-0.5 0.1-0.5				Brief Brief Brief	Occasional Occasional Occasional	Very bri --- Very bri
31A: Ingledove-----	B	Low	Jan-May Nov-Dec	---	---	---				---	None None	---
32A: Irongate-----	B	Low	Jan-May June October Nov-Dec	1.5-3.0 3.0-6.6 3.0-6.6 1.5-3.0	>6.0 >6.0 >6.0 >6.0	---				---	None None None None	Brief --- --- Brief
33C: Litz-----	C	Low	Jan-Dec	---	---	---				---	None	---
Chiswell-----	D	Medium	Jan-Dec	---	---	---				---	None	---
Groseclose-----	C	High	Jan-Dec	---	---	---				---	None	---

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding			Duration	Frequency	Duration
				Upper limit	Lower limit	Surface water depth						
				<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>						
33E: Litz-----												
	C	Medium	Jan-Dec	---	---	---				---	None	---
Chiswell-----	D	High	Jan-Dec	---	---	---				---	None	---
Groseclose-----	C	Very high	Jan-Dec	---	---	---				---	None	---
33F: Litz-----												
	C	Medium	Jan-Dec	---	---	---				---	None	---
Chiswell-----	D	High	Jan-Dec	---	---	---				---	None	---
Groseclose-----	C	Very high	Jan-Dec	---	---	---				---	None	---
34C: Litz, very stony-----												
	C	Low	Jan-Dec	---	---	---				---	None	---
Needmore, very stony-----	C	Medium	Jan-Dec	---	---	---				---	None	---
34E: Litz, very stony-----												
	C	Medium	Jan-Dec	---	---	---				---	None	---
Needmore, very stony-----	C	High	Jan-Dec	---	---	---				---	None	---
34F: Litz, very stony-----												
	C	Medium	Jan-Dec	---	---	---				---	None	---
Needmore, very stony-----	C	High	Jan-Dec	---	---	---				---	None	---
35C: Lodi-----												
	B	Medium	Jan-Dec	---	---	---				---	None	---
McClung-----	B	Medium	Jan-Dec	---	---	---				---	None	---

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding			Duration	Frequency	Duration
				Upper limit	Lower limit	Surface water depth						
				<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>						
35C: Lily-----	B	High	Jan-Dec	---	---	---		---	None			---
35E: Lodi-----	B	High	Jan-Dec	---	---	---		---	None			---
McClung-----	B	High	Jan-Dec	---	---	---		---	None			---
Lily-----	B	High	Jan-Dec	---	---	---		---	None			---
36C: Lostcove, extremely stony-----	B	Medium	Jan-May June-Oct Nov-Dec	5.0-6.6 --- 5.0-6.6	>6.0 --- >6.0	--- --- ---		--- --- ---	None None None			---
37E: Lostcove, very stony-----	B	High	Jan-May June-Oct Nov-Dec	5.0-6.6 --- 5.0-6.6	>6.0 --- >6.0	--- --- ---		--- --- ---	None None None			---
37F: Lostcove, very stony-----	B	High	Jan-May June-Oct Nov-Dec	5.0-6.6 --- 5.0-6.6	>6.0 --- >6.0	--- --- ---		--- --- ---	None None None			---
38E: Marbleyard, extremely stony-----	B	Very high	Jan-Dec	---	---	---		---	None			---

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding		
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration
38E: Rock outcrop.				Ft.	Ft.	Ft.			
39F: Marbleyard, extremely stony-----	B	Very high	Jan-Dec	---	---	---	---	None	---
Sherando, extremely stony-----	A	Medium	Jan-Dec	---	---	---	---	None	---
Rock outcrop.									
39G: Marbleyard, extremely stony-----	B	Very high	Jan-Dec	---	---	---	---	None	---
Sherando, extremely stony-	A	Medium	Jan-Dec	---	---	---	---	None	---
Rock outcrop.									
40A: Maurertown-----	D	Negligible	Jan-May June-Oct Nov-Dec	0.0-0.5 0.0-0.5 0.0-0.5	>6.0 >6.0 >6.0	0.1-0.5 0.1-0.5 0.1-0.5	Brief Brief Brief	Occasional Occasional Occasional	---
Toms-----	C	Negligible	Jan-May June July-Oct Nov-Dec	0.5-1.5 0.5-1.5 1.5-6.6 0.5-1.5	>6.0 >6.0 >6.0 >6.0	0.1-0.5 0.1-0.5 0.1-0.5 0.1-0.5	Brief Brief Brief Brief	Occasional Occasional Occasional Occasional	---
41C: McCamy, very stony-----	B	Medium	Jan-Dec	---	---	---	---	None	---

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Frequency	Duration
				Upper limit	Lower limit	Surface water depth	Duration			
				<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
42F: McClung, very stony-----	B	High	Jan-Dec	---	---	---		None		---
Caneyville, very stony----	C	High	Jan-Dec	---	---	---		None		---
Dekalb, very stony-----	C	High	Jan-Dec	---	---	---		None		---
43C: Needmore-----	C	Medium	Jan-Dec	---	---	---		None		---
Opequon-----	C	High	Jan-Dec	---	---	---		None		---
43E: Needmore-----	C	High	Jan-Dec	---	---	---		None		---
Opequon-----	C	Very high	Jan-Dec	---	---	---		None		---
43F: Needmore-----	C	High	Jan-Dec	---	---	---		None		---
Opequon-----	C	Very high	Jan-Dec	---	---	---		None		---
44E: Needmore-----	C	High	Jan-Dec	---	---	---		None		---
Urban land.										
45B: Nicelytown-----	C	High	Jan-May June July-Sep October Nov-Dec	1.5-2.5 2.5-6.6 --- 2.5-6.6 1.5-2.5	>6.0 >6.0 --- >6.0 >6.0	--- --- --- --- ---		None None None None None		--- --- --- --- ---

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding			Duration	Frequency	Duration
				Upper limit	Lower limit	Surface water depth						
				Ft.	Ft.	Ft.						
46B:												
Nicelytown-----	C	High	Jan-May	1.5-2.5	>6.0	---				---	None	---
			June	2.5-6.6	>6.0	---				---	None	---
			July-Sep	---	---	---				---	None	---
			October	2.5-6.6	>6.0	---				---	None	---
			Nov-Dec	1.5-2.5	>6.0	---				---	None	---
Urban land.												
47C:												
Oriskany, extremely stony-----	B	Low	Jan-Dec	---	---	---				---	None	---
Laidig, extremely stony---	C	Low	Jan-April	2.5-4.0	4.0-6.6	---				---	None	---
			May	4.0-6.0	>6.0	---				---	None	---
			June-Sep	---	---	---				---	None	---
			October	4.0-6.0	>6.0	---				---	None	---
			Nov-Dec	2.5-4.0	4.0-6.6	---				---	None	---
Oriskany, extremely stony-----	B	Medium	Jan-Dec	---	---	---				---	None	---
Laidig, extremely stony---	C	Medium	Jan-April	2.5-4.0	4.0-6.6	---				---	None	---
			May	4.0-6.0	>6.0	---				---	None	---
			June-Sep	---	---	---				---	None	---
			October	4.0-6.0	>6.0	---				---	None	---
			Nov-Dec	2.5-4.0	4.0-6.6	---				---	None	---
48F:												
Oriskany, extremely stony-----	B	Medium	Jan-Dec	---	---	---				---	None	---



Table 18.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding			Duration	Frequency	Duration
				Upper limit	Lower limit	Surface water depth						
				<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>						
49C: Oriskany, extremely stony-----	B	Low	Jan-Dec	---	---	---				---	None	---
Murrill, extremely stony-----	B	Medium	Jan-Dec	---	---	---				---	None	---
49E: Oriskany, extremely stony-----	B	Medium	Jan-Dec	---	---	---				---	None	---
Murrill, extremely stony-----	B	High	Jan-Dec	---	---	---				---	None	---
49F: Oriskany, extremely stony-----	B	Medium	Jan-Dec	---	---	---				---	None	---
Murrill, extremely stony-----	B	High	Jan-Dec	---	---	---				---	None	---
50E: Peaks, very rocky-----	C	High	Jan-Dec	---	---	---				---	None	---
Edneytown, very rocky-----	B	High	Jan-Dec	---	---	---				---	None	---
50F: Peaks, very rocky-----	C	High	Jan-Dec	---	---	---				---	None	---
Edneytown, very rocky-----	B	High	Jan-Dec	---	---	---				---	None	---

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding		
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration
				Ft.	Ft.	Ft.			
51A: Philo-----									
	B	Low	Jan-May	1.5-3.0	>6.0	---	---	None	Very bri
			June	3.0-6.6	>6.0	---	---	None	---
			October	3.0-6.6	>6.0	---	---	None	---
			Nov-Dec	1.5-3.0	>6.0	---	---	None	Very bri
52C: Pignut, very stony-----	C	High	Jan-Dec	---	---	---	---	None	---
Myersville, very stony----	B	High	Jan-Dec	---	---	---	---	None	---
53E: Pignut, very stony-----	C	High	Jan-Dec	---	---	---	---	None	---
53F: Pignut, very stony-----	C	High	Jan-Dec	---	---	---	---	None	---
54. Pits and Dumps									
55A: Pope-----	A	Very low	Jan-May	---	---	---	---	None	Very bri
			Nov-Dec	---	---	---	---	None	Very bri
56G: Rock outcrop.									
Opequon-----	C	Very high	Jan-Dec	---	---	---	---	None	---
57A: Sensabaugh-----	B	Very low	Jan-May	4.0-6.6	>6.0	---	---	None	Very bri
			Nov-Dec	4.0-6.6	>6.0	---	---	None	Very bri

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding		
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration
57A: Lobdell-----				<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>			
	B	Low	Jan-May	1.5-3.0	>6.0	---	---	None	Very bri
			June	3.0-6.6	>6.0	---	---	None	---
			October	3.0-6.6	>6.0	---	---	None	---
			Nov-Dec	1.5-3.0	>6.0	---	---	None	Very bri
Derroc-----	B	Very low	Jan-May	---	---	---	---	None	Very bri
			Nov-Dec	---	---	---	---	None	Very bri
58B: Shottower-----	B	Medium	Jan-Dec	---	---	---	---	None	---
58C: Shottower-----	B	Medium	Jan-Dec	---	---	---	---	None	---
58D: Shottower-----	B	High	Jan-Dec	---	---	---	---	None	---
59E: Shottower-----	B	High	Jan-Dec	---	---	---	---	None	---
60C: Shottower-----	B	Medium	Jan-Dec	---	---	---	---	None	---
Urban land.									
61B: Slabtown-----	B	Medium	Jan-May	1.5-3.0	2.5-4.5	---	---	None	---
			June-Sep	---	---	---	---	None	---
			Oct-Dec	1.5-3.0	2.5-4.5	---	---	None	---

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding			Duration	Frequency	Duration
				Upper limit	Lower limit	Surface water depth						
61C: Slabtown-----												
	B	Medium	Jan-May	1.5-3.0	2.5-4.5	---				---	None	---
			June-Sep	---	---	---				---	None	---
			Oct-Dec	1.5-3.0	2.5-4.5	---				---	None	---
62. Slickens.												
63E: Stumptown, extremely stony-----	B	High	Jan-Dec	---	---	---				---	None	---
Marbleyard, extremely stony-----	B	High	Jan-Dec	---	---	---				---	None	---
Rock outcrop.												
63F: Stumptown, extremely stony-----	B	High	Jan-Dec	---	---	---				---	None	---
Marbleyard, extremely stony-----	B	High	Jan-Dec	---	---	---				---	None	---
Rock outcrop.												
63G: Stumptown, extremely stony-----	B	High	Jan-Dec	---	---	---				---	None	---
Marbleyard, extremely stony-----	B	High	Jan-Dec	---	---	---				---	None	---
Rock outcrop.												

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding		
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration
63G: Rock outcrop.				<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>			
64E: Stumptown, very stony-----	B	High	Jan-Dec	---	---	---	---	None	---
Sylco, very stony-----	C	High	Jan-Dec	---	---	---	---	None	---
64F: Stumptown, very stony-----	B	High	Jan-Dec	---	---	---	---	None	---
Sylco, very stony-----	C	High	Jan-Dec	---	---	---	---	None	---
65E: Sylco, very rocky-----	C	High	Jan-Dec	---	---	---	---	None	---
Marbleyard, very rocky----	B	Very high	Jan-Dec	---	---	---	---	None	---
65F: Sylco, very rocky-----	C	High	Jan-Dec	---	---	---	---	None	---
Marbleyard, very rocky----	B	Very high	Jan-Dec	---	---	---	---	None	---
65G: Sylco, very rocky-----	C	High	Jan-Dec	---	---	---	---	None	---
Marbleyard, very rocky----	B	Very high	Jan-Dec	---	---	---	---	None	---
66C: Thunder, very bouldery----	B	Medium	Jan-Dec	---	---	---	---	None	---
Saunook, very bouldery----	B	Medium	Jan-Dec	---	---	---	---	None	---

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding			Duration	Frequency	Duration
				Upper limit	Lower limit	Surface water depth						
				<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>						
66E: Thunder, very bouldery----	B	High	Jan-Dec	---	---	---				---	None	---
Saunook, very bouldery----	B	High	Jan-Dec	---	---	---				---	None	---
66F: Thunder, very bouldery----	B	High	Jan-Dec	---	---	---				---	None	---
Saunook, very bouldery----	B	High	Jan-Dec	---	---	---				---	None	---
67C: Tumbling-----	B	Medium	Jan-Dec	---	---	---				---	None	---
Vanella-----	B	Medium	Jan-Dec	---	---	---				---	None	---
67D: Tumbling-----	B	High	Jan-Dec	---	---	---				---	None	---
Vanella-----	B	High	Jan-Dec	---	---	---				---	None	---
67E: Tumbling-----	B	High	Jan-Dec	---	---	---				---	None	---
Vanella-----	B	High	Jan-Dec	---	---	---				---	None	---
68D: Tumbling-----	B	Medium	Jan-Dec	---	---	---				---	None	---
Vanella-----	B	Medium	Jan-Dec	---	---	---				---	None	---
Urban land.												

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding			Duration	Frequency	Duration
				Upper limit	Lower limit	Surface water depth						
				Ft.	Ft.	Ft.						
69A:												
Tygart-----												
	D	Very high	Jan-June	0.5-1.5	>6.0	0.1-0.5				Brief	Occasional	---
			July-Oct	1.5-6.0	>6.0	0.1-0.5				Brief	Occasional	---
			Nov-Dec	0.5-1.5	>6.0	0.1-0.5				Brief	Occasional	---
Purdy-----	D	Negligible	Jan-Dec	0.0-1.0	>6.0	0.1-0.5				Brief	Occasional	---
70:												
Udorthents, refuse												
Substratum.												
71.												
Udorthents-Urban land.												
72C:												
Unaka, very stony-----	B	High	Jan-Dec	---	---	---				---	None	---
Plott, very stony-----	A	Low	Jan-Dec	---	---	---				---	None	---
72E:												
Unaka, very stony-----	B	High	Jan-Dec	---	---	---				---	None	---
Plott, very stony-----	A	Medium	Jan-Dec	---	---	---				---	None	---
73C:												
Vanella, very stony-----	B	Medium	Jan-Dec	---	---	---				---	None	---
Tumbling, very stony-----	B	Medium	Jan-Dec	---	---	---				---	None	---
73E:												
Vanella, very stony-----	B	High	Jan-Dec	---	---	---				---	None	---
Tumbling, very stony-----	B	High	Jan-Dec	---	---	---				---	None	---

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding			Duration	Frequency	Duration
				Upper limit	Lower limit	Surface water depth						
				Ft.	Ft.	Ft.						
74C: Watahala, very stony-----	B	Low	Jan-Dec	---	---	---				---	None	---
Frederick, very stony-----	B	Medium	Jan-Dec	---	---	---				---	None	---
74E: Watahala, very stony-----	B	Medium	Jan-Dec	---	---	---				---	None	---
Frederick, very stony-----	B	High	Jan-Dec	---	---	---				---	None	---
74F: Watahala, very stony-----	B	Medium	Jan-Dec	---	---	---				---	None	---
Frederick, very stony-----	B	High	Jan-Dec	---	---	---				---	None	---
75E: Weikert-----	D	High	Jan-Dec	---	---	---				---	None	---
Berks-----	C	High	Jan-Dec	---	---	---				---	None	---
Rough-----	D	Very high	Jan-Dec	---	---	---				---	None	---
75F: Weikert-----	D	High	Jan-Dec	---	---	---				---	None	---
Berks-----	C	High	Jan-Dec	---	---	---				---	None	---
Rough-----	D	Very high	Jan-Dec	---	---	---				---	None	---
76G: Weikert-----	D	High	Jan-Dec	---	---	---				---	None	---
Rough-----	D	Very high	Jan-Dec	---	---	---				---	None	---



Table 18.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding		
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration
76G: Rock outcrop.									
77C: Wintergreen-----	B	Medium	Jan-Dec	---	---	---	---	None	---
77D: Wintergreen-----	B	High	Jan-Dec	---	---	---	---	None	---
77E: Wintergreen-----	B	High	Jan-Dec	---	---	---	---	None	---
78E: Wintergreen, very stony---	B	High	Jan-Dec	---	---	---	---	None	---
79A: Wolfgap-----	B	Low	Jan-May Nov-Dec	---	---	---	---	None None	---
80A: Wolfgap-----	B	Low	Jan-May Nov-Dec	---	---	---	---	None None	---
Derroc-----	B	Very low	Jan-Dec	---	---	---	---	None	---
Urban land.									
W. Water.									

Table 19.-Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Restrictive layer		Potential for frost action		Risk of corrosion	
	Kind	Depth to top In.	Hardness		Uncoated steel	Concrete
1A: Alonzville, rarely flooded-----	---	---	---	Moderate	Low	High
2B: Alonzville-----	---	---	---	Moderate	Low	High
3B: Alonzville-----	---	---	---	Moderate	Low	High
Urban land.						
4C: Berks-----	Lithic bedrock	20-40	Very strongly cemented	Moderate	Low	High
Weikert-----	Lithic bedrock	10-20	Very strongly cemented	Moderate	Moderate	Moderate
5A: Botetourt-----	---	---	---	Moderate	Moderate	High
6A: Botetourt-----	---	---	---	Moderate	Moderate	High
Urban land.						
7A: Buckton-----	---	---	---	Moderate	Moderate	Moderate
Weaver-----	---	---	---	Moderate	High	Low

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.	Hardness	Uncoated steel	Concrete
8F: Caneyville-----	Lithic bedrock	20-40	Indurated	High	Moderate
Frederick-----	---	---	---	Moderate	High
Rock outcrop.					
9C: Carbo, very rocky-----	Lithic bedrock	20-40	Moderately cemented	High	Low
Opequon, very rocky-----	Lithic bedrock	12-20	Indurated	Moderate	Low
9E: Carbo, very rocky-----	Lithic bedrock	20-40	Moderately cemented	High	Low
Opequon, very rocky-----	Lithic bedrock	12-20	Indurated	Moderate	Low
10F: Carbo-----	Lithic bedrock	20-40	Moderately cemented	High	Low
Opequon-----	Lithic bedrock	12-20	Indurated	Moderate	Low
Rock outcrop.					
11B: Cottonbend-----	---	---	---	Moderate	High
11C: Cottonbend-----	---	---	---	Moderate	High

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.	Hardness	Uncoated steel	Concrete
12A: Coursey, rarely flooded-----	---	---	---	Moderate	High
13B: Coursey-----	---	---	---	Moderate	High
14C: Dekalb, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	Low
Lehew, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	Low
Berks, very stony-----	Lithic bedrock	20-40	Very strongly cemented	Moderate	Low
14E: Dekalb, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	Low
Lehew, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	Low
Berks, very stony-----	Lithic bedrock	20-40	Very strongly cemented	Moderate	Low
14F: Dekalb, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	Low
Lehew, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	Low
Berks, very stony-----	Lithic bedrock	20-40	Very strongly cemented	Moderate	Low
15E: Dekalb, extremely stony-----	Lithic bedrock	20-40	Indurated	Moderate	Low

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.	Hardness	Uncoated steel	Concrete
15E: Lehew, extremely stony-----	Lithic bedrock	20-40	Indurated	Moderate	Low
Rock outcrop.					
15F: Dekalb, extremely stony-----	Lithic bedrock	20-40	Indurated	Moderate	Low
Lehew, extremely stony-----	Lithic bedrock	20-40	Indurated	Moderate	Low
Rock outcrop.					
16C: Dekalb, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	Low
Lily, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	Moderate
16E: Dekalb, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	Low
Lily, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	Moderate
17F: Dekalb, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	Low
Lily, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	Moderate
18A: Derroc-----	---	---	---	Moderate	Low

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.	Hardness	Uncoated steel	Concrete
19C: Edneytown-----	Paralithic bedrock	61-79	Moderately cemented	Moderate	High
19D: Edneytown-----	Paralithic bedrock	61-79	Moderately cemented	Moderate	High
20C: Edneytown, very stony-----	Paralithic bedrock	61-79	Moderately cemented	Moderate	High
Peaks, very stony-----	Paralithic bedrock Lithic bedrock	20-40 20-40	Moderately cemented Very strongly cemented	Moderate	High
20E: Edneytown, very stony-----	Paralithic bedrock	61-79	Moderately cemented	Moderate	High
Peaks, very stony-----	Paralithic bedrock Lithic bedrock	20-40 20-40	Moderately cemented Very strongly cemented	Moderate	High
20F: Edneytown, very stony--	Paralithic bedrock	61-79	Moderately cemented	Moderate	High

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
20F: Peaks, very stony-----	Paralithic bedrock  Lithic bedrock	In.				
		20-40	Moderately cemented	Moderate	Moderate	High
		20-40	Very strongly cemented			
21B: Escatawba-----	---	---	---	Moderate	High	Moderate
21C: Escatawba-----	---	---	---	Moderate	High	Moderate
22B: Frederick-----	---	---	---	Moderate	Moderate	High
22C: Frederick-----	---	---	---	Moderate	Moderate	High
22D: Frederick-----	---	---	---	Moderate	Moderate	High
23E: Frederick-----	---	---	---	Moderate	Moderate	High
Caneyville-----	Lithic bedrock	20-40	Indurated	Moderate	High	Moderate
24C: Frederick, very rocky-----	---	---	---			
Caneyville, very rocky-----	Lithic bedrock	20-40	Indurated	Moderate	High	Moderate

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.	Hardness	Uncoated steel	Concrete
24E: Frederick, very rocky-----	---	---	---	Moderate	High
Caneyville, very rocky-----	Lithic bedrock	20-40	Indurated	Moderate	Moderate
25C: Frederick-----	---	---	---	Moderate	High
Watahala-----	Strongly contrasting textural stratification	20-50	---	High	High
25D: Frederick-----	---	---	---	Moderate	High
Watahala-----	Strongly contrasting textural stratification	20-50	---	High	High
25E: Frederick-----	---	---	---	Moderate	High
Watahala-----	Strongly contrasting textural stratification	20-50	---	High	High
26A: Gladehill-----	---	---	---	Moderate	Low



Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.	Hardness	Uncoated steel	Concrete
27B: Groseclose-----	---	---	---	High	High
27C: Groseclose-----	---	---	---	High	High
27D: Groseclose-----	---	---	---	High	High
28E: Groseclose-----	---	---	---	High	High
Needmore----- Paralithic bedrock	Paralithic bedrock	20-40	Moderately cemented	High	Moderate
29C: Groseclose-----	---	---	---	High	High
Needmore----- Paralithic bedrock	Paralithic bedrock	20-40	Moderately cemented	High	Moderate
Urban land.					
30A: Holly-----	---	---	---	High	Moderate
Orrville-----	---	---	---	High	Moderate
31A: Ingledove-----	---	---	---	Low	High
32A: Irongate-----	---	---	---	Low	High

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
33C: Litz-----	Paralithic bedrock	20-40	Moderately cemented	Moderate	Moderate	High
	Lithic bedrock	20-40	Very strongly cemented			
Chiswell-----	Paralithic bedrock	10-20	Moderately cemented	Moderate	Moderate	Moderate
	---	---	---	Moderate	High	High
33E: Litz-----	Paralithic bedrock	20-40	Moderately cemented	Moderate	Moderate	High
	Lithic bedrock	20-40	Very strongly cemented			
Chiswell-----	Paralithic bedrock	10-20	Moderately cemented	Moderate	Moderate	Moderate
	---	---	---	Moderate	High	High
33F: Litz-----	Paralithic bedrock	20-40	Moderately cemented	Moderate	Moderate	High
	Lithic bedrock	20-40	Very strongly cemented			
Chiswell-----	Paralithic bedrock	10-20	Moderately cemented	Moderate	Moderate	Moderate
	---	---	---	Moderate	High	High
Groseclose-----	Paralithic bedrock	20-40	Moderately cemented	Moderate	Moderate	High
	---	---	---	Moderate	High	High
Chiswell-----	Paralithic bedrock	10-20	Moderately cemented	Moderate	Moderate	Moderate
	---	---	---	Moderate	High	High
Groseclose-----	Paralithic bedrock	20-40	Moderately cemented	Moderate	Moderate	High
	---	---	---	Moderate	High	High
Chiswell-----	Paralithic bedrock	10-20	Moderately cemented	Moderate	Moderate	Moderate
	---	---	---	Moderate	High	High
Groseclose-----	Paralithic bedrock	20-40	Moderately cemented	Moderate	Moderate	High
	---	---	---	Moderate	High	High

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.	Hardness	Uncoated steel	Concrete
34C: Litz, very stony-----	Paralithic bedrock	20-40	Moderately cemented	Moderate	High
	Lithic bedrock	20-40	Very strongly cemented		
Needmore, very stony----	Paralithic bedrock	20-40	Moderately cemented	High	Moderate
34E: Litz, very stony-----	Paralithic bedrock	20-40	Moderately cemented	Moderate	High
	Lithic bedrock	20-40	Very strongly cemented		
Needmore, very stony----	Paralithic bedrock	20-40	Moderately cemented	High	Moderate
34F: Litz, very stony-----	Paralithic bedrock	20-40	Moderately cemented	Moderate	High
	Lithic bedrock	20-40	Very strongly cemented		
Needmore, very stony----	Paralithic bedrock	20-40	Moderately cemented	High	Moderate
35C: Lodi-----	---	---	---	Moderate	High
McClung-----	---	---	---	High	High
Lily-----	Lithic bedrock	20-40	Indurated	Moderate	High

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.	Hardness	Uncoated steel	Concrete
35E: Lodi-----	---	---	---	Moderate	High
McClung-----	---	---	---	High	High
Lily-----	Lithic bedrock	20-40	Indurated	Moderate	High
36C: Lostcove, extremely stony-----	---	---	---	Low	High
37E: Lostcove, very stony---	---	---	---	Low	High
37F: Lostcove, very stony---	---	---	---	Low	High
38E: Marbleyard, extremely stony-----	Lithic bedrock	20-40	---	Moderate	High
Rock outcrop.					
39F: Marbleyard, extremely stony-----	Lithic bedrock	20-40	---	Moderate	High
Sherando, extremely stony-----	---	---	---	Moderate	High
Rock outcrop.					
39G: Marbleyard, extremely stony-----	Lithic bedrock	20-40	---	Moderate	High

Table 19.--Soil Features--Continued

Map symbol and soil name	Kind	Restrictive layer		Potential for frost action	Risk of corrosion	
		Depth to top	Hardness		Uncoated steel	Concrete
39G: Sherando, extremely stony-----	---	In. ---	---	Moderate	Moderate	High
Rock outcrop.						
40A: Maurertown-----	---	---	---	High	High	High
Toms-----	---	---	---	High	High	High
41C: McCamy, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	Moderate	High
42F: McClung, very stony-----	---	---	---	Moderate	High	High
Caneyville, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	High	Moderate
Dekalb, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	Low	High
43C: Needmore-----	Paralithic bedrock	20-40	Moderately cemented	Moderate	High	Moderate
Opequon-----	Lithic bedrock	12-20	Indurated	Moderate	Moderate	Low
43E: Needmore-----	Paralithic bedrock	20-40	Moderately cemented	Moderate	High	Moderate
Opequon-----	Lithic bedrock	12-20	Indurated	Moderate	Moderate	Low

Table 19.--Soil Features--Continued

Map symbol and soil name	Kind	Restrictive layer		Potential for frost action	Risk of corrosion	
		Depth to top	Hardness		Uncoated steel	Concrete
43F: Needmore-----	Paralithic bedrock	20-40	Moderately cemented	Moderate	High	Moderate
Opequon-----	Lithic bedrock	12-20	Indurated	Moderate	Moderate	Low
44E: Needmore-----	Paralithic bedrock	20-40	Moderately cemented	Moderate	High	Moderate
Urban land.						
45B: Nicelytown-----	---	---	---	Moderate	Moderate	High
46B: Nicelytown-----	---	---	---	Moderate	Moderate	High
Urban land.						
47C: Oriskany, extremely stony-----	---	---	---	Moderate	Moderate	High
Laidig, extremely stony-----	Fragipan	30-50	Weakly cemented	Moderate	Moderate	High
47E: Oriskany, extremely stony-----	---	---	---	Moderate	Moderate	High
Laidig, extremely stony-----	Fragipan	30-50	Weakly cemented	Moderate	Moderate	High

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.	Hardness	Uncoated steel	Concrete
48F: Oriskany, extremely stony-----	---	---	---	Moderate	High
49C: Oriskany, extremely stony-----	---	---	---	Moderate	High
Murrill, extremely stony-----	---	---	---	Moderate	High
49E: Oriskany, extremely stony-----	---	---	---	Moderate	High
Murrill, extremely stony-----	---	---	---	Moderate	High
49F: Oriskany, extremely stony-----	---	---	---	Moderate	High
Murrill, extremely stony-----	---	---	---	Moderate	High
50E: Peaks, very rocky-----	Paralithic bedrock Lithic bedrock	20-40 20-40	Moderately cemented Very strongly cemented	Moderate	High
Edneytown, very rocky--	Paralithic bedrock	61-79	Moderately cemented	Moderate	High

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.	Hardness	Uncoated steel	Concrete
50F: Peaks, very rocky-----	Paralithic bedrock	20-40	Moderately cemented	Moderate	High
	Lithic bedrock	20-40	Very strongly cemented		
Edneytown, very rocky--	Paralithic bedrock	61-79	Moderately cemented	Moderate	High
51A: Philo-----	---	---	---	Low	High
52C: Pignut, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	Moderate
Myersville, very Stony-----	Paralithic bedrock	40-60	Moderately cemented	Moderate	Moderate
53E: Pignut, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	Moderate
53F: Pignut, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	Moderate
54. Pits and Dumps.					
55A: Pope-----	---	---	---	Low	Low
56G: Rock outcrop.					
Opequon-----	Lithic bedrock	12-20	Indurated	Moderate	Low



Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.	Hardness	Uncoated steel	Concrete
57A: Sensabaugh-----	---	---	---	Moderate	Moderate
Lobdell-----	---	---	---	Moderate	Moderate
Derroc-----	---	---	---	Moderate	Moderate
58B: Shottower-----	---	---	---	Moderate	Moderate
58C: Shottower-----	---	---	---	Moderate	Moderate
58D: Shottower-----	---	---	---	Moderate	Moderate
59E: Shottower-----	---	---	---	Moderate	Moderate
60C: Shottower-----	---	---	---	Moderate	Moderate
Urban land.					
61B: Slabtown-----	---	---	---	Moderate	Low
61C: Slabtown-----	---	---	---	Moderate	Low
62. Slickens.					

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.	Hardness	Uncoated steel	Concrete
63E: Stumptown, extremely stony-----	Lithic bedrock	20-40	Indurated	Moderate	High
Marbleyard, extremely stony-----	Lithic bedrock	20-40	---	Moderate	High
Rock outcrop.					
63F: Stumptown, extremely stony-----	Lithic bedrock	20-40	Indurated	Moderate	High
Marbleyard, extremely stony-----	Lithic bedrock	20-40	---	Moderate	High
Rock outcrop.					
63G: Stumptown, extremely stony-----	Lithic bedrock	20-40	Indurated	Moderate	High
Marbleyard, extremely stony-----	Lithic bedrock	20-40	---	Moderate	High
Rock outcrop.					
64E: Stumptown, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	High
Sylco, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	Moderate

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.	Hardness	Uncoated steel	Concrete
64F: Stumptown, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	High
Sylco, very stony-----	Lithic bedrock	20-40	Indurated	Low	Moderate
65E: Sylco, very rocky-----	Lithic bedrock	20-40	Indurated	Low	Moderate
Marbleyard, very rocky-----	Lithic bedrock	20-40	---	Moderate	High
65F: Sylco, very rocky-----	Lithic bedrock	20-40	Indurated	Low	Moderate
Marbleyard, very rocky-----	Lithic bedrock	20-40	---	Moderate	High
65G: Sylco, very rocky-----	Lithic bedrock	20-40	Indurated	Low	Moderate
Marbleyard, very rocky-----	Lithic bedrock	20-40	---	Moderate	High
66C: Thunder, very bouldery-----	---	---	---	Moderate	High
Saunook, very bouldery-----	---	---	---	Moderate	High
66E: Thunder, very bouldery-----	---	---	---	Moderate	High

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.	Hardness	Uncoated steel	Concrete
66E: Saunook, very Boulder-----	---	---	---	Moderate	High
66F: Thunder, very Boulder-----	---	---	---	Moderate	High
Saunook, very Boulder-----	---	---	---	Moderate	High
67C: Tumbling-----	---	---	---	Moderate	High
Vanella-----	---	---	---	Moderate	Moderate
67D: Tumbling-----	---	---	---	Moderate	High
Vanella-----	---	---	---	Moderate	Moderate
67E: Tumbling-----	---	---	---	Moderate	High
Vanella-----	---	---	---	Moderate	Moderate
68D: Tumbling-----	---	---	---	Moderate	High
Vanella-----	---	---	---	Moderate	Moderate
Urban land.					
69A: Tygart-----	---	---	---	High	High

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.	Hardness	Uncoated steel	Concrete
69A: Purdy-----	---	---	---	High	High
70: Udorthents, refuse substratum.					
71. Udorthents-Urban land.					
72C: Unaka, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	Moderate
Plott, very stony-----	---	---	---	Moderate	High
72E: Unaka, very stony-----	Lithic bedrock	20-40	Indurated	Moderate	Moderate
Plott, very stony-----	---	---	---	Moderate	High
73C: Vanella, very stony----	---	---	---	Moderate	High
Tumbling, very stony----	---	---	---	Moderate	High
73E: Vanella, very stony----	---	---	---	Moderate	High
Tumbling, very stony----	---	---	---	Moderate	High
74C: Watahala, very stony----	Strongly contrasting textural stratification	20-50	---	High	High

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
74C: Frederick, very stony-----	---	In. ---	---	Moderate	Moderate	High
74E: Watahala, very stony---	Strongly contrasting textural stratification	20-50	---	Moderate	High	High
Frederick, very stony-----	---	---	---	Moderate	Moderate	High
74F: Watahala, very stony---	Strongly contrasting textural stratification	20-50	---	Moderate	High	High
Frederick, very stony-----	---	---	---	Moderate	Moderate	High
75E: Weikert-----	Lithic bedrock	10-20	Very strongly cemented	Moderate	Moderate	Moderate
Berks-----	Lithic bedrock	20-40	Very strongly cemented	Moderate	Low	High
Rough-----	Lithic bedrock	4-10	Very strongly cemented	Moderate	High	High
75F: Weikert-----	Lithic bedrock	10-20	Very strongly cemented	Moderate	Moderate	Moderate

Table 19.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.	Hardness	Uncoated steel	Concrete
75F: Barks-----	Lithic bedrock	20-40	Very strongly cemented	Low	High
Rough-----	Lithic bedrock	4-10	Very strongly cemented	High	High
76G: Weikert-----	Lithic bedrock	10-20	Very strongly cemented	Moderate	Moderate
Rough-----	Lithic bedrock	4-10	Very strongly cemented	High	High
Rock outcrop-----	Lithic bedrock	0-0	Indurated	---	---
77C: Wintergreen-----	---	---	---	High	Moderate
77D: Wintergreen-----	---	---	---	High	Moderate
77E: Wintergreen-----	---	---	---	High	Moderate
78E: Wintergreen, very stony-----	---	---	---	High	Moderate
79A: Wolfgap-----	---	---	---	Low	Moderate
80A: Wolfgap-----	---	---	---	Low	Moderate

Table 19.-Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
80A: Derroc-----	---	In. ---	---			
Urban land.				Moderate	Low	Moderate
W.						
Water.						



Table 20.-Taxonomic Classification of the Soils

Soil name	Family or higher taxonomic class
Alonville-----	Fine-loamy, siliceous, semiactive, mesic Typic Hapludults
Berks-----	Loamy-skeletal, mixed, active, mesic Typic Dystrudepts
Botetourt-----	Fine-loamy, siliceous, semiactive, mesic Oxyaquic Hapludalfs
Buckton-----	Fine-silty, mixed, semiactive, calcareous, mesic Typic Udifluvents
Caneyville-----	Fine, mixed, active, mesic Typic Hapludalfs
Carbo-----	Very-fine, mixed, active, mesic Typic Hapludalfs
Chiswell-----	Loamy-skeletal, mixed, active, mesic, shallow Typic Dystrudepts
Cottonbend-----	Fine-loamy, siliceous, semiactive, mesic Typic Paleudults
Coursey-----	Fine-loamy, siliceous, semiactive, mesic Aquic Hapludults
Dekalb-----	Loamy-skeletal, siliceous, active, mesic Typic Dystrudepts
Derroc-----	Loamy-skeletal, siliceous, active, mesic Dystric Fluventic Eutrudepts
Edneytown-----	Fine-loamy, mixed, active, mesic Typic Hapludults
Escatawba-----	Fine-loamy, siliceous, semiactive, mesic Oxyaquic Paleudults
Frederick-----	Fine, mixed, semiactive, mesic Typic Paleudults
Gladehill-----	Coarse-loamy, siliceous, superactive, mesic Fluventic Hapludolls
Groseclose-----	Fine, mixed, semiactive, mesic Typic Hapludults
Holly-----	Fine-loamy, mixed, active, nonacid, mesic Fluvaquentic Endoaquepts
Ingledove-----	Fine-loamy, siliceous, semiactive, active, mesic Ultic Hapludalfs
Irongate-----	Coarse-loamy, siliceous, active, mesic Fluvaquentic Hapludolls
Laidig-----	Fine-loamy, siliceous, active, mesic Typic Fragiudults
Lehew-----	Loamy-skeletal, siliceous, semiactive, mesic Typic Dystrudepts
Lily-----	Fine-loamy, siliceous, semiactive, mesic Typic Hapludults
Litz-----	Loamy-skeletal, mixed, active, mesic Ruptic-Ultic Dystrudepts
Lobdell-----	Fine-loamy, mixed, active, mesic Fluvaquentic Eutrudepts
Lodi-----	Fine, mixed, subactive, mesic Typic Hapludults
Lostcove-----	Loamy-skeletal, siliceous, active, mesic Typic Hapludults
Marbleyard-----	Loamy-skeletal, siliceous, semiactive, mesic Typic Dystrudepts
Maurertown-----	Fine, mixed, semiactive, mesic Typic Endoaqualfs
McCamy-----	Fine-loamy, siliceous, semiactive, mesic Typic Hapludults
McClung-----	Fine-loamy, siliceous, semiactive, mesic Typic Paleudults
Murrill-----	Fine-loamy, mixed, semiactive, mesic Typic Hapludults
Myersville-----	Fine-loamy, mixed, active, mesic Ultic Hapludalfs
Needmore-----	Fine, mixed, active, mesic Ultic Hapludalfs
Nicelytown-----	Fine-loamy, siliceous, semiactive, mesic Aquic Paleudults
Opequon-----	Clayey, mixed, active, mesic Lithic Hapludalfs

Table 20.—Taxonomic Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Oriskany-----	Loamy-skeletal, siliceous, semiactive, mesic Typic Hapludults
Orrville-----	Fine-loamy, mixed, active, nonacid, mesic Fluventic Endoaquepts
Peaks-----	Loamy-skeletal, mixed, active, mesic Typic Dystrudepts
Philo-----	Coarse-loamy, mixed, active, mesic Fluvaquentic Dystrudepts
Pignut-----	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Plott-----	Fine-loamy, isotic, mesic Typic Humudepts
Pope-----	Coarse-loamy, mixed, active, mesic Fluventic Dystrudepts
Purdy-----	Fine, mixed, active, mesic Typic Endoaquults
Rough-----	Loamy-skeletal, mixed, active, acid, mesic Lithic Udorthents
Saunook-----	Fine-loamy, mixed, superactive, mesic Humic Hapludults
Sensabaugh-----	Fine-loamy, mixed, semiactive, mesic Dystric Fluventic Eutrudepts
Sherando-----	Loamy-skeletal, siliceous, active, mesic Typic Dystrudepts
Shottower-----	Fine, kaolinitic, mesic Typic Paleudults
Slabtown-----	Fine-loamy, mixed, semiactive, mesic Aquic Paleudalfs
Stumptown-----	Loamy-skeletal, mixed, active, mesic Inceptic Hapludults
Sylco-----	Loamy-skeletal, mixed, active, mesic Typic Dystrudepts
Thunder-----	Loamy-skeletal, mixed, active, mesic Humic Hapludults
Tons-----	Fine, mixed, semiactive, mesic Aeris Endoaqualfs
Tumbling-----	Fine, kaolinitic, mesic Typic Paleudults
Tygart-----	Fine, mixed, semiactive, mesic Aeris Endoaquults
Udorthents-----	Udorthents
Unaka-----	Fine-loamy, isotic, mesic Typic Humudepts
Vanella-----	Fine-loamy, siliceous, subactive, mesic Typic Paleudults
Watahala-----	Fine-loamy over clayey, siliceous over mixed, subactive, mesic Typic Paleudults
Weaver-----	Fine-loamy, mixed, active, mesic Fluvaquentic Eutrudepts
Weikert-----	Loamy-skeletal, mixed, active, mesic Lithic Dystrudepts
Wintergreen-----	Fine, mixed, subactive, mesic Typic Paleudults
Wolfgap-----	Fine-loamy, siliceous, active, mesic Fluventic Hapludolls

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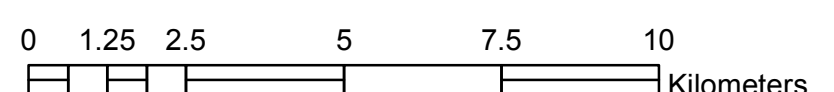
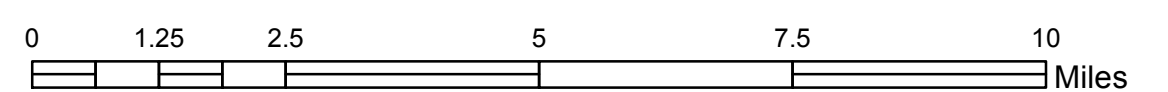
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**ROCKBRIDGE COUNTY, VIRGINIA**



1:120,000











LOCATION MAP

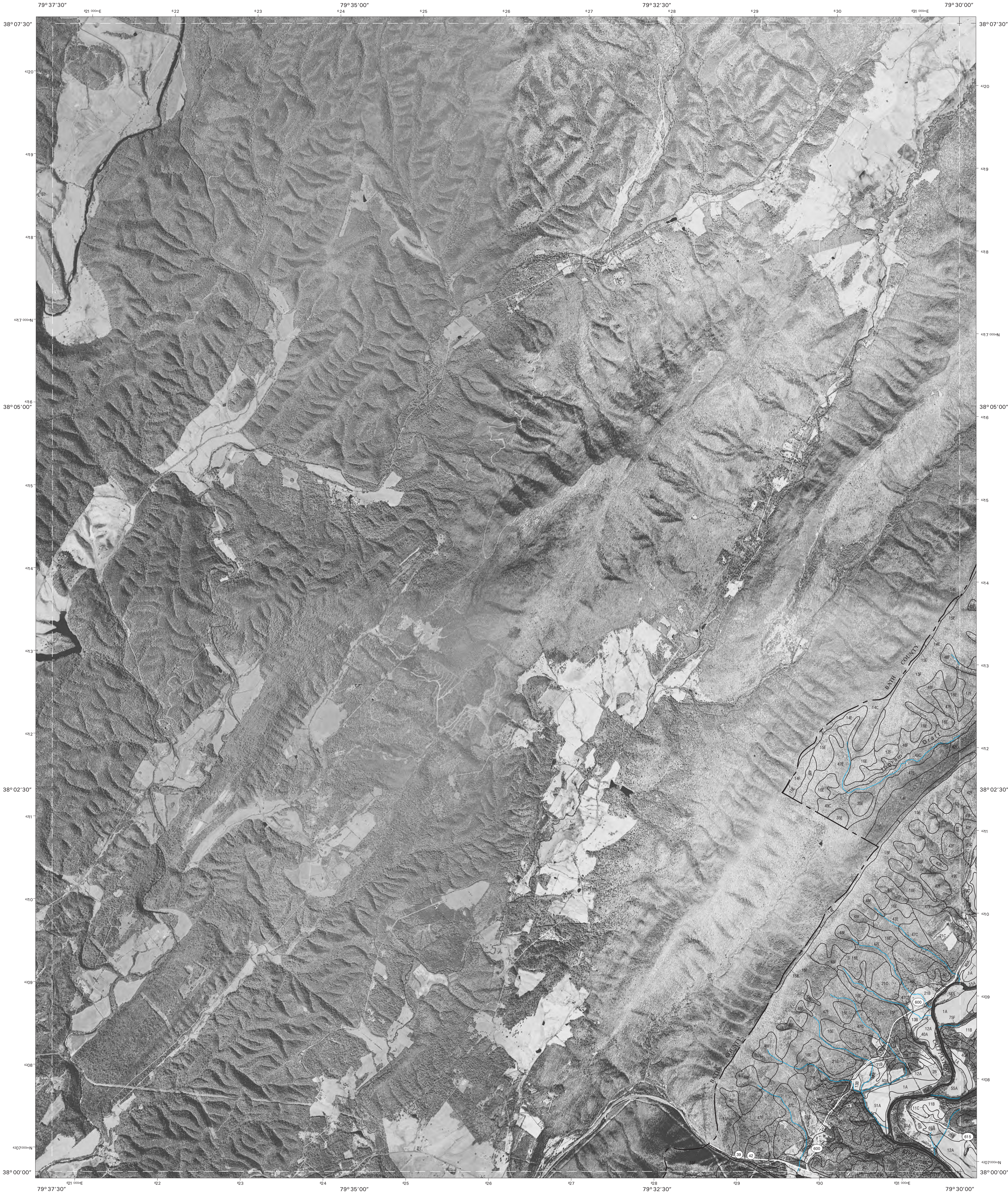


SOIL LEGEND

CONVENTIONAL AND SPECIAL  
SYMBOLS LEGEND

SOIL LEGEND		CONVENTIONAL AND SPECIAL SYMBOLS LEGEND	
		CULTURAL FEATURES	SOIL SURVEY FEATURES
SYMBOL	NAME	BOUNDARIES	SOIL DELINEATIONS AND SYMBOLS
1A	Alonzville loam, 0 to 3 percent slopes, rarely flooded	County or parish	
2B	Alonzville loam, 3 to 8 percent slopes	Reservation (national or state forest or park)	
3B	Alonzville-Urban land complex, 3 to 8 percent slopes	Field sheet neatline	
4C	Berks-Weikert complex, 3 to 15 percent slopes	TRANSPORTATION	
5A	Botetourt loam, 0 to 3 percent slopes, rarely flooded	Other Road	
6A	Botetourt-Urban land complex, 0 to 3 percent slopes, rarely flooded	ROAD EMBLEMS & DESIGNATION	
7A	Buckton-Weaver complex, 0 to 3 percent slopes, occasionally flooded	Interstate	
8F	Caneyville-Frederick-Rock outcrop complex, 35 to 55 percent slopes	Federal	
9C	Carbo-Opequon complex, 3 to 15 percent slopes, very rocky	State	
9E	Carbo-Opequon complex, 15 to 35 percent slopes, very rocky	HYDROGRAPHIC FEATURES	
10F	Carbo-Opequon-Rock outcrop complex, 35 to 70 percent slopes	Unclassified stream	
11B	Cottonbend loam, 3 to 8 percent slopes		
11C	Cottonbend loam, 8 to 15 percent slopes		
12A	Coursey loam, 0 to 3 percent slopes, rarely flooded		
13B	Coursey loam, 3 to 8 percent slopes		
14C	Dekalb, Lebew, and Berks soils, 3 to 15 percent slopes, very stony		
14E	Dekalb, Lebew, and Berks soils, 15 to 35 percent slopes, very stony		
14F	Dekalb, Lebew, and Berks soils, 35 to 70 percent slopes, very stony		
15E	Dekalb-Lebew-Rock outcrop complex, 15 to 35 percent slopes, extremely stony		
15F	Dekalb-Lebew-Rock outcrop complex, 35 to 80 percent slopes, extremely stony		
16C	Dekalb-Lily complex, 3 to 15 percent slopes, very stony		
16E	Dekalb-Lily complex, 15 to 35 percent slopes, very stony		
17F	Dekalb-Lily complex, 35 to 55 percent slopes, very stony		
18A	Derroc very cobbly sandy loam, 0 to 3 percent slopes, frequently flooded		
19C	Edneytown loam, 8 to 15 percent slopes		
19D	Edneytown loam, 15 to 25 percent slopes		
20C	Edneytown-Peaks complex, 3 to 15 percent slopes, very stony		
20E	Edneytown-Peaks complex, 15 to 35 percent slopes, very stony		
20F	Edneytown-Peaks complex, 35 to 70 percent slopes, very stony		
21B	Escatawba loam, 3 to 8 percent slopes		
21C	Escatawba loam, 8 to 15 percent slopes		
22B	Frederick silt loam, 3 to 8 percent slopes		
22C	Frederick silt loam, 8 to 15 percent slopes		
22D	Frederick silt loam, 15 to 25 percent slopes		
23E	Frederick-Caneyville complex, 25 to 35 percent slopes		
24C	Frederick-Caneyville complex, 3 to 15 percent slopes, very rocky		
24E	Frederick-Caneyville complex, 15 to 35 percent slopes, very rocky		
25C	Frederick-Watahala complex, 8 to 15 percent slopes		
25D	Frederick-Watahala complex, 15 to 25 percent slopes		
25E	Frederick-Watahala complex, 25 to 35 percent slopes		
26A	Gladehill fine sandy loam, 0 to 3 percent slopes, occasionally flooded		
27B	Groseclose silt loam, 3 to 8 percent slopes		
27C	Groseclose silt loam, 8 to 15 percent slopes		
27D	Groseclose silt loam, 15 to 25 percent slopes		
28E	Groseclose-Needmore complex, 25 to 35 percent slopes		
29C	Groseclose-Needmore-Urban land complex, 0 to 15 percent slopes		
30A	Holly-Orrville complex, 0 to 3 percent slopes, occasionally flooded		
31A	Ingleddove loam, 0 to 3 percent slopes, rarely flooded		
32A	Irngate fine sandy loam, 0 to 3 percent slopes, occasionally flooded		
33C	Litz-Chiswell-Groseclose complex, 8 to 15 percent slopes		
33E	Litz-Chiswell-Groseclose complex, 15 to 35 percent slopes		
33F	Litz-Chiswell-Groseclose complex, 35 to 55 percent slopes		
34C	Litz-Needmore complex, 3 to 15 percent slopes, very stony		
34E	Litz-Needmore complex, 15 to 35 percent slopes, very stony		
34F	Litz-Needmore complex, 35 to 70 percent slopes, very stony		
35C	Lodi-McClung-Lily complex, 8 to 15 percent slopes		
35E	Lodi-McClung-Lily complex, 15 to 35 percent slopes		
36C	Lostcove very cobbly sandy loam, 3 to 15 percent slopes, extremely stony		
37E	Lostcove very cobbly sandy loam, 15 to 35 percent slopes, very stony		
37F	Lostcove very cobbly sandy loam, 35 to 55 percent slopes, very stony		
38E	Marbleyard-Rock outcrop complex, 15 to 35 percent slopes, extremely stony		
39F	Marbleyard-Sherando-Rock outcrop complex, 35 to 55 percent slopes, extremely stony		
39G	Marbleyard-Sherando-Rock outcrop complex, 55 to 80 percent slopes extremely stony		
40A	Maurertown-Toms complex, 0 to 3 percent slopes, rarely flooded		
41C	McCamy loam, 3 to 15 percent slopes, very stony		
42F	McClung-Caneyville-Dekalb complex, 35 to 55 percent slopes, very stony		
43C	Needmore-Opequon complex, 3 to 15 percent slopes		
43E	Needmore-Opequon complex, 15 to 35 percent slopes		
43F	Needmore-Opequon complex, 35 to 70 percent slopes		
44E	Needmore-Urban land complex, 15 to 35 percent slopes		
45B	Nicelytown loam, 3 to 8 percent slopes		
46B	Nicelytown-Urban land complex, 3 to 8 percent slopes		
47C	Oriskany-Laidig complex, 3 to 15 percent slopes, extremely stony		
47E	Oriskany-Laidig complex, 15 to 35 percent slopes, extremely stony		
48F	Oriskany cobbly sandy loam, 35 to 55 percent slopes, extremely stony		
49C	Oriskany-Murrill complex, 3 to 15 percent slopes, extremely stony		
49E	Oriskany-Murrill complex, 15 to 35 percent slopes, extremely stony		
49F	Oriskany-Murrill complex, 35 to 55 percent slopes, extremely stony		
50E	Peaks-Edneytown complex, 15 to 35 percent slopes, very rocky		
50F	Peaks-Edneytown complex, 35 to 70 percent slopes, very rocky		
51A	Philo fine sandy loam, 0 to 3 percent slopes, occasionally flooded		
52C	Pignut-Myersville complex, 3 to 15 percent slopes, very stony		
53E	Pignut silt loam, 15 to 35 percent slopes, very stony		
53F	Pignut silt loam, 35 to 70 percent slopes, very stony		
54	Pits and Dumps		
55A	Pope fine sandy loam, 0 to 3 percent slopes, occasionally flooded		
56G	Rock outcrop-Opequon complex, 55 to 100 percent slopes		
57A	Sensabaugh-Lobdell-Derroc complex, 0 to 3 percent slopes, occasionally flooded		
58B	Shottower fine sandy loam, 3 to 8 percent slopes		
58C	Shottower fine sandy loam, 8 to 15 percent slopes		
58D	Shottower fine sandy loam, 15 to 25 percent slopes		
59E	Shottower cobbly fine sandy loam, 25 to 35 percent slopes		
60C	Shottower-Urban land complex, 3 to 15 percent slopes		
61B	Slabtown silt loam, 0 to 8 percent slopes		
61C	Slabtown silt loam, 8 to 15 percent slopes		
62	Slickens		
63E	Stumptown-Marbleyard-Rock outcrop complex, 15 to 35 percent slopes, extremely stony		
63F	Stumptown-Marbleyard-Rock outcrop complex, 35 to 55 percent slopes, extremely stony		
63G	Stumptown-Marbleyard-Rock outcrop complex, 55 to 80 percent slopes, extremely stony		
64E	Stumptown-Sylco complex, 15 to 35 percent slopes, very stony		
64F	Stumptown-Sylco complex, 35 to 55 percent slopes, very stony		
65E	Sylco-Marbleyard complex, 15 to 35 percent slopes, very rocky		
65F	Sylco-Marbleyard complex, 35 to 55 percent slopes, very rocky		
65G	Sylco-Marbleyard complex, 55 to 80 percent slopes, very rocky		
66C	Thunder-Saunook complex, 3 to 15 percent slopes, very bouldery		
66E	Thunder-Saunook complex, 15 to 35 percent slopes, very bouldery		
66F	Thunder-Saunook complex, 35 to 55 percent slopes, very bouldery		
67C	Tumbling-Vanella complex, 8 to 15 percent slopes		
67D	Tumbling-Vanella complex, 15 to 25 percent slopes		
67E	Tumbling-Vanella complex, 25 to 35 percent slopes		
68D	Tumbling-Vanella-Urban land complex, 8 to 25 percent slopes		
69A	Tygart-Purdy complex, 0 to 3 percent slopes		
70	Udorhents, refuse substratum		
71	Udorhents, smoothed-Urban land complex		
72C	Unaka-Plott complex, 3 to 15 percent slopes, very stony		
72E	Unaka-Plott complex, 15 to 35 percent slopes, very stony		
73C	Vanella-Tumbling complex, 3 to 15 percent slopes, very stony		
73E	Vanella-Tumbling complex, 15 to 35 percent slopes, very stony		
74C	Watahala-Frederick complex, 8 to 15 percent slopes, very stony		
74E	Watahala-Frederick complex, 15 to 35 percent slopes, very stony		
74F	Watahala-Frederick complex, 35 to 55 percent slopes, very stony		
75E	Weikert-Berks-Rough complex, 15 to 35 percent slopes		
75F	Weikert-Berks-Rough complex, 35 to 70 percent slopes		
76G	Weikert-Rough-Rock outcrop complex, 70 to 100 percent slopes		
77C	Wintergreen loam, 8 to 15 percent slopes		
77D	Wintergreen loam, 15 to 25 percent slopes		
77E	Wintergreen loam, 25 to 35 percent slopes		
78E	Wintergreen loam, 15 to 35 percent slopes, very stony		
79A	Wolfgap loam, 0 to 3 percent slopes, rarely flooded		
80A	Wolfgap-Derroc-Urban land complex, 0 to 3 percent slopes, rarely flooded		
W	Water		





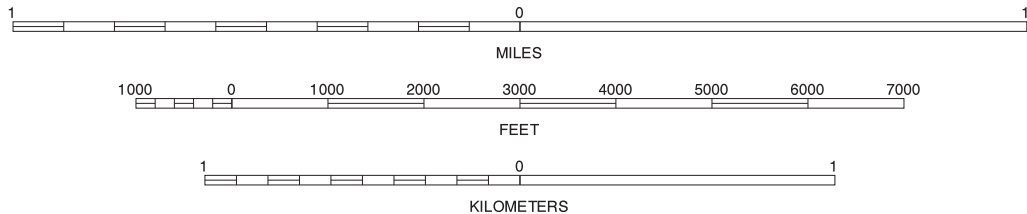
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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 17. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



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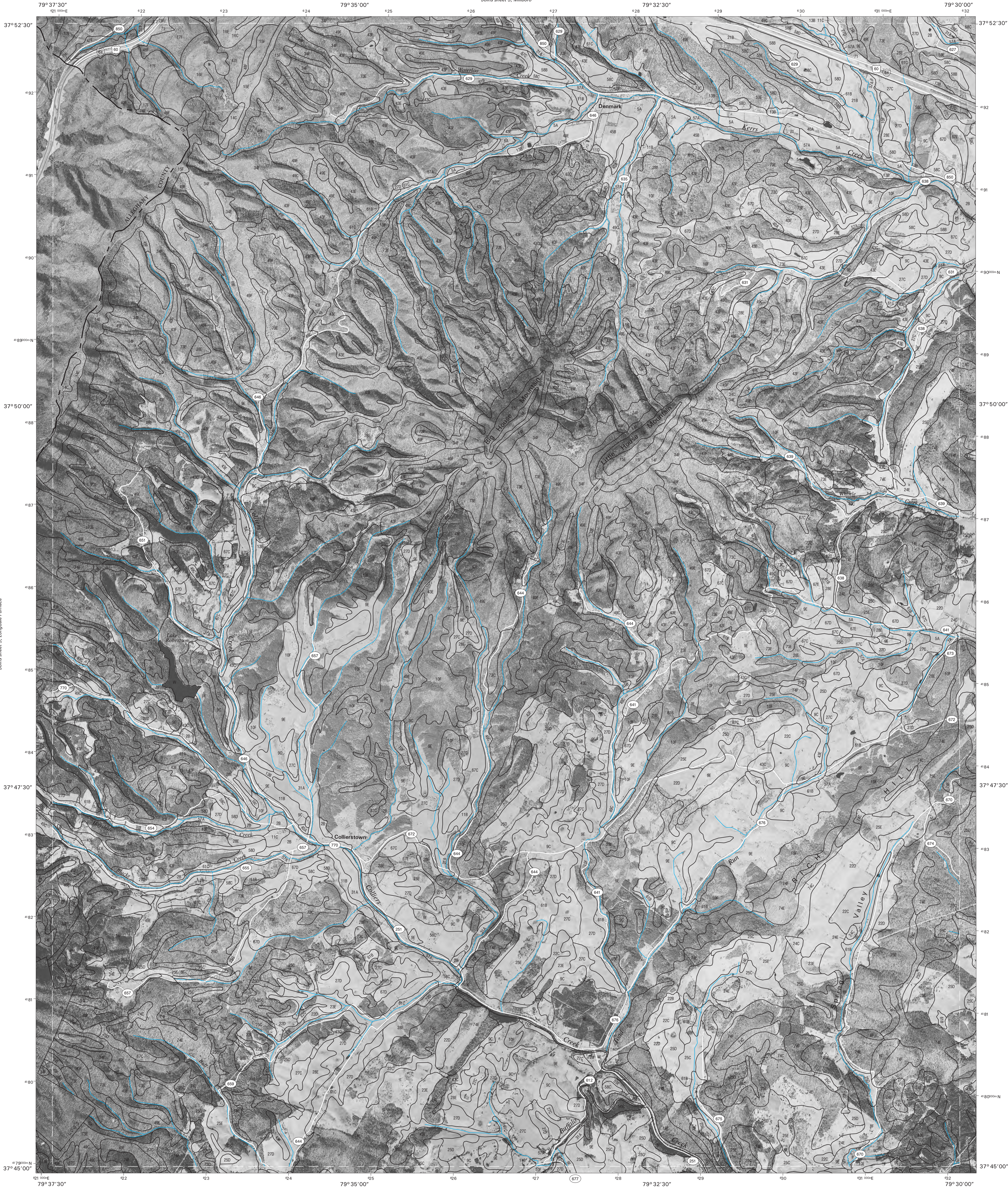
2 CRAIGSVILLE  
4 NIMROD HALL  
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6 GOSHEN

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Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.



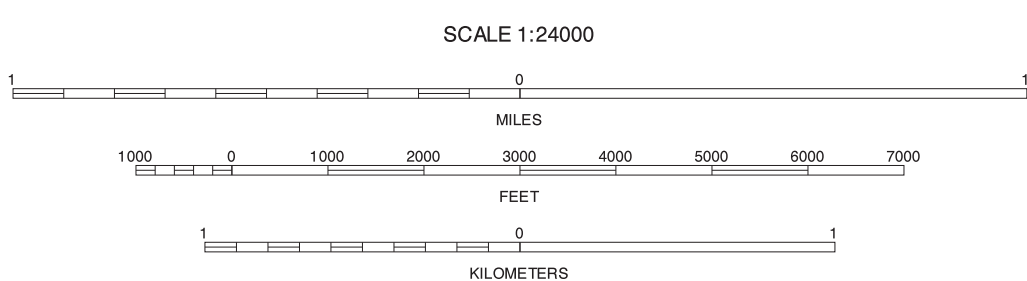


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QUADRANGLE LOCATION



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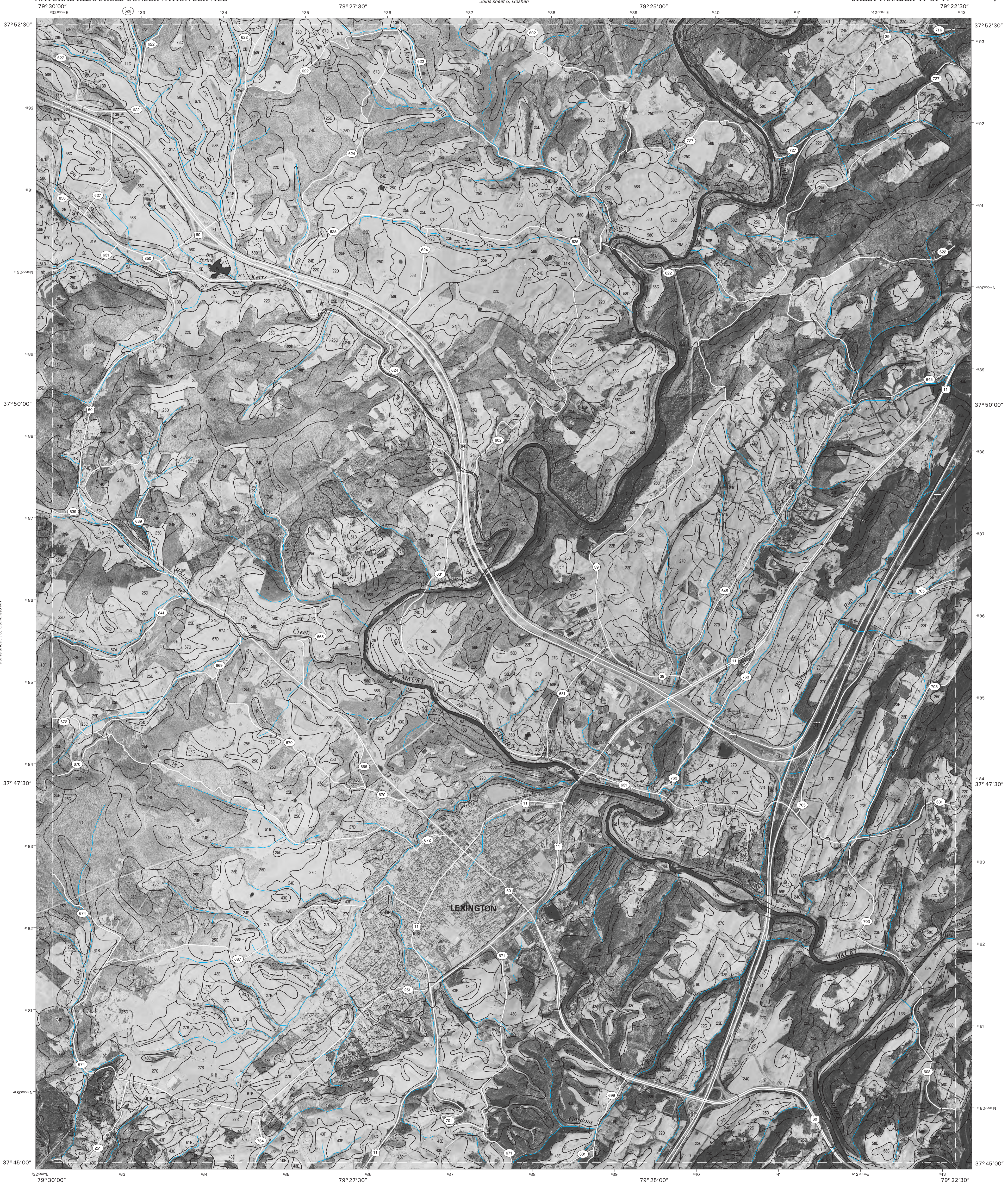
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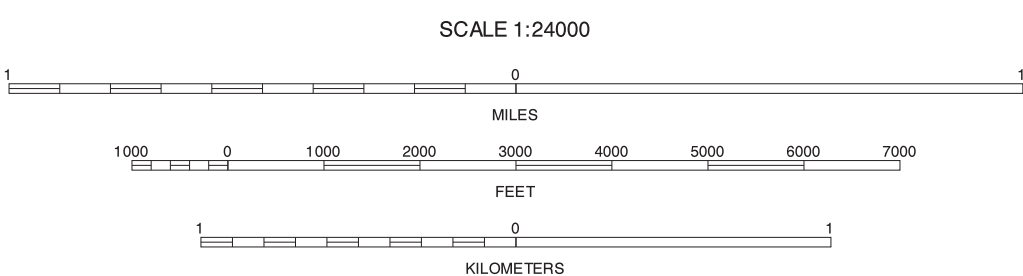


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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 17. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



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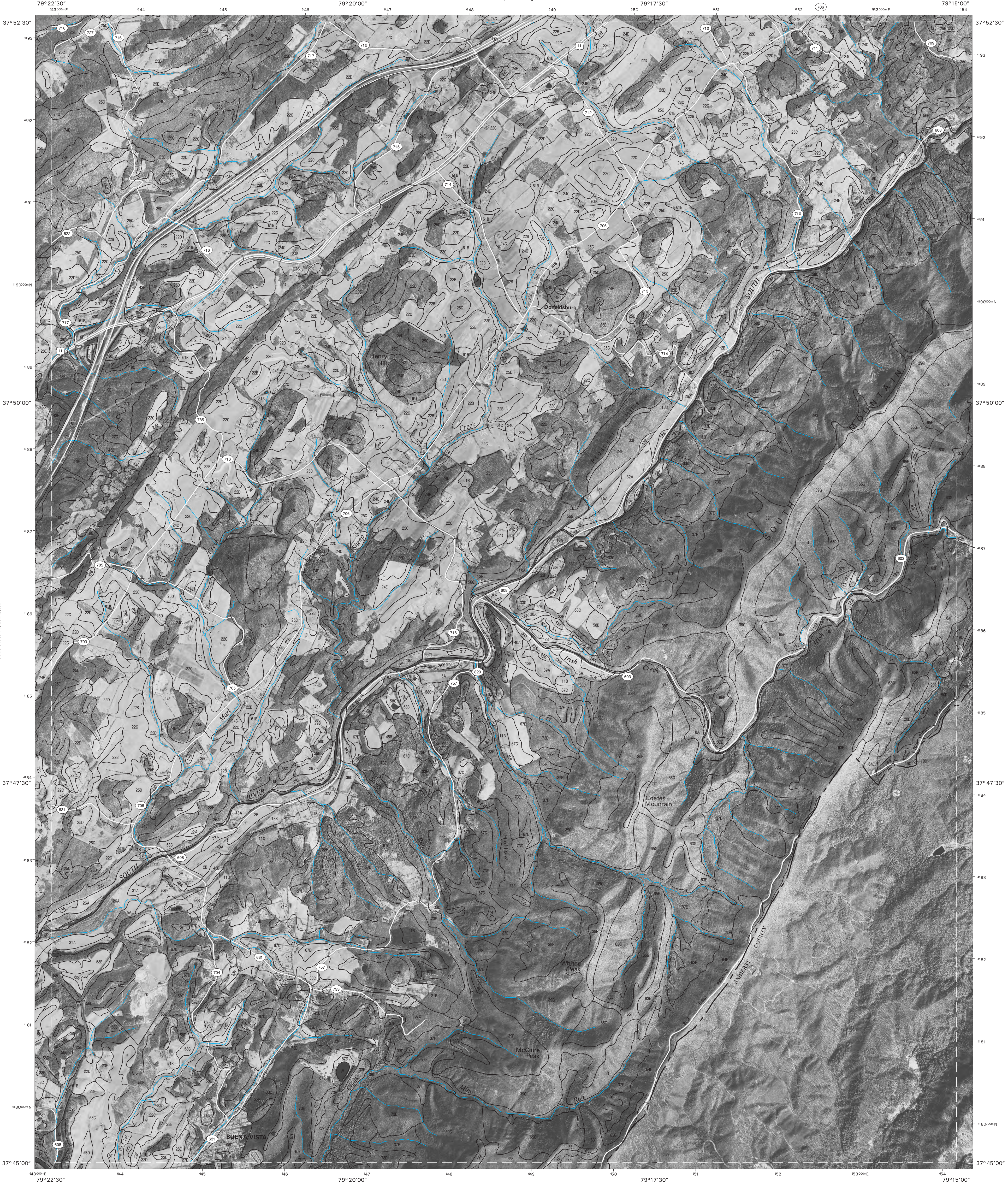
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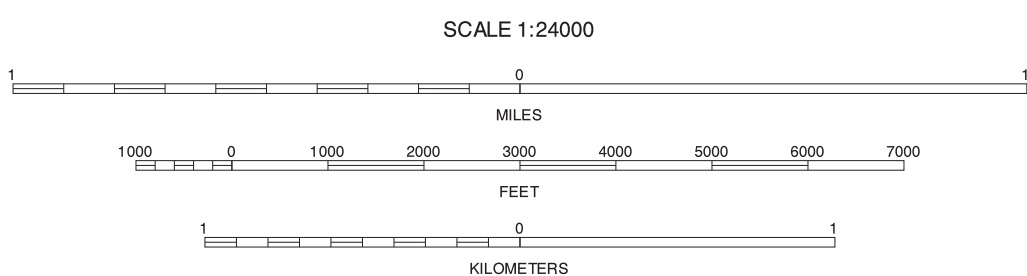
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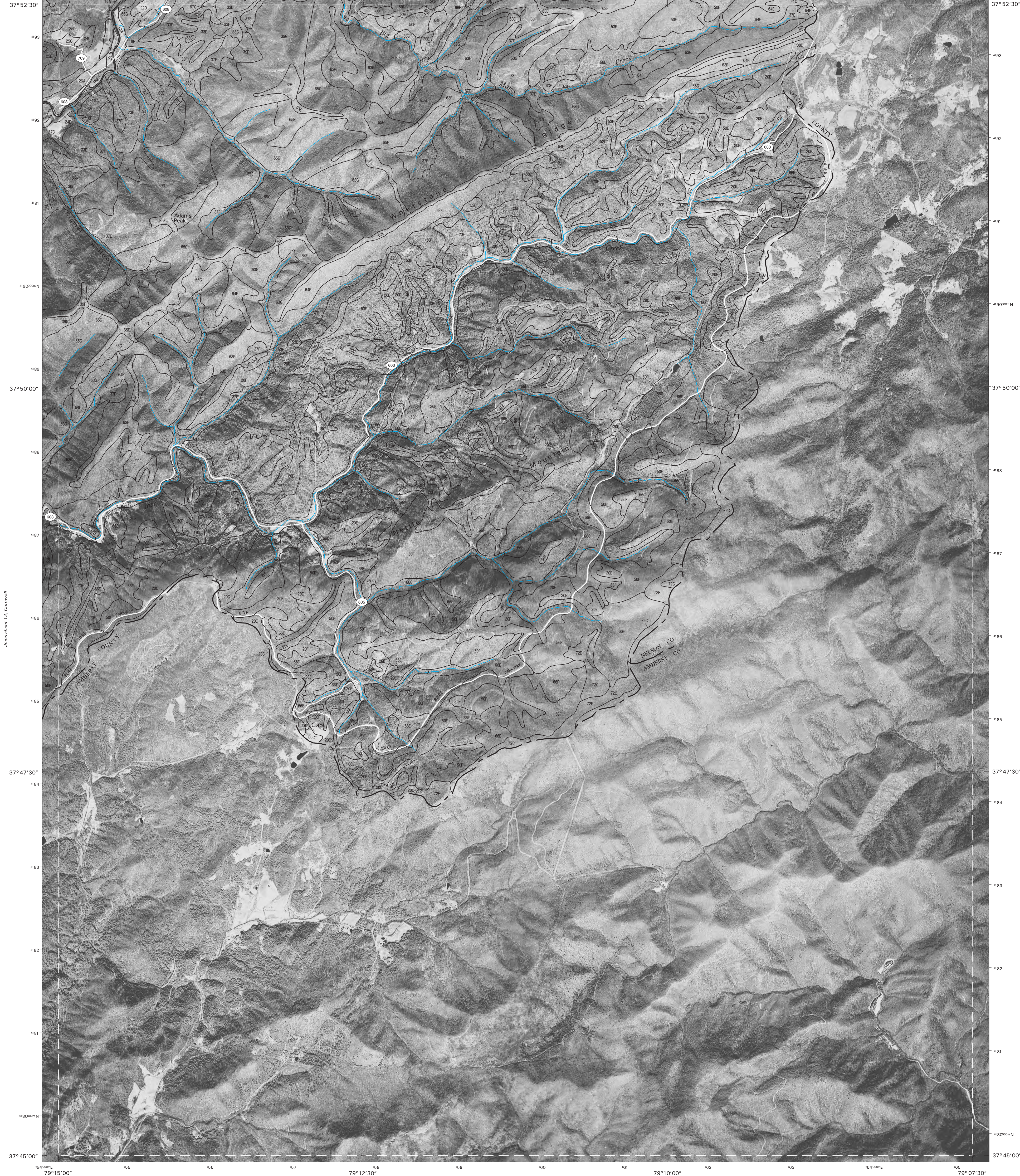
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Joins sheet 8, Vesuvius

Joins sheet 7,  
Cornwall



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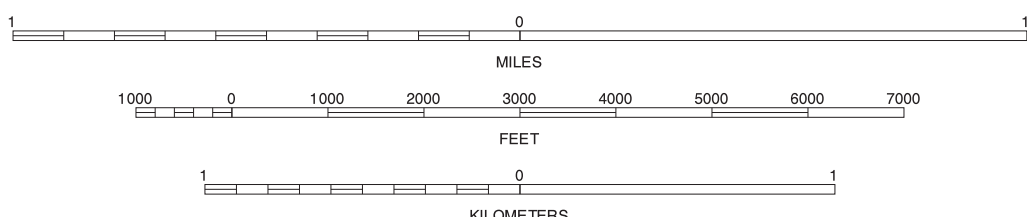
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NORTH



QUADRANGLE LOCATION

SCALE 1:24000



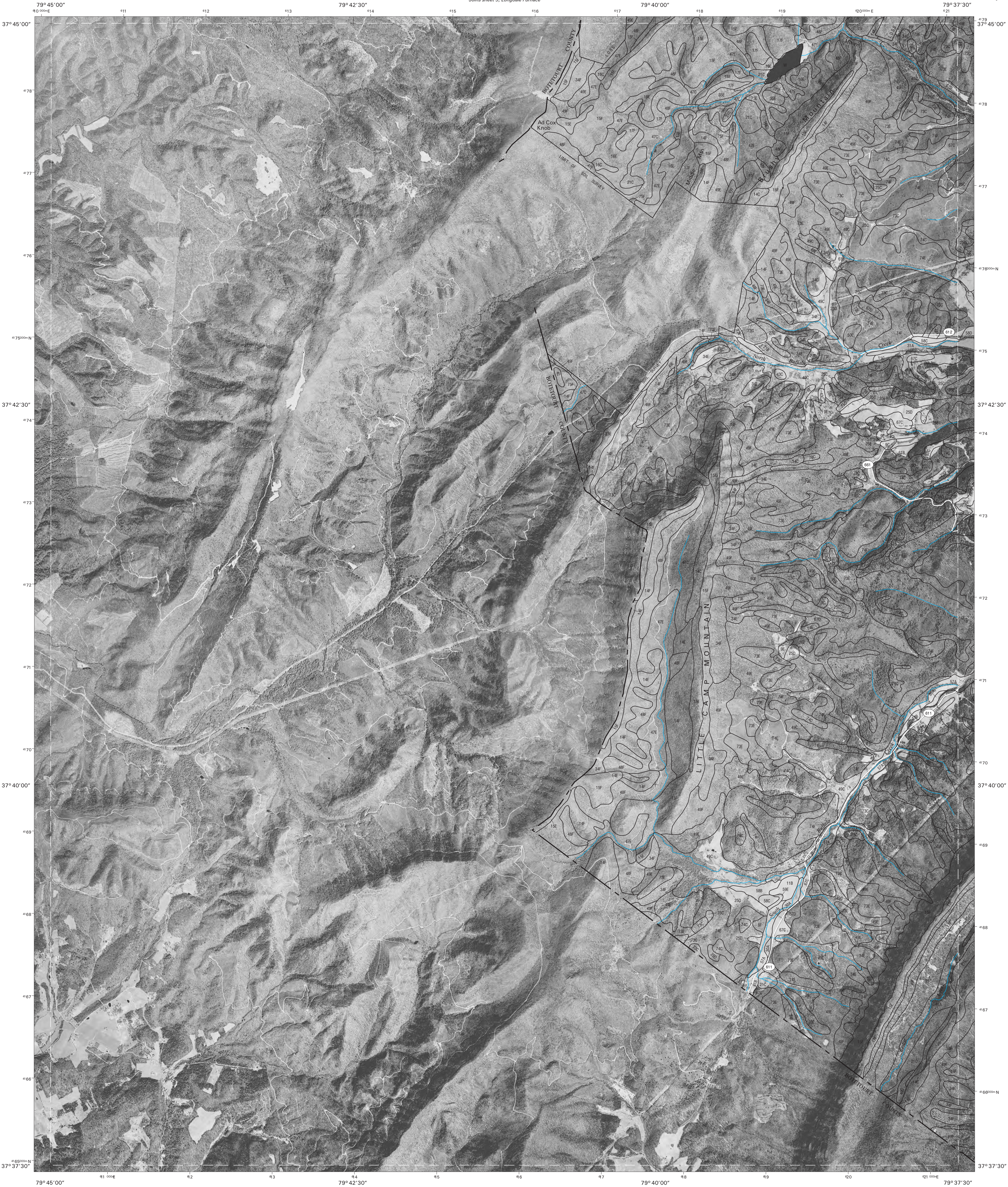
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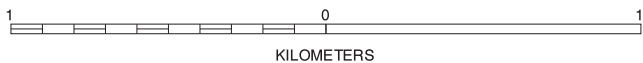
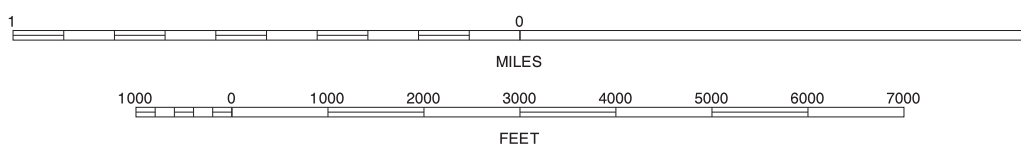
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NORTH



QUADRANGLE LOCATION

SCALE 1:24000



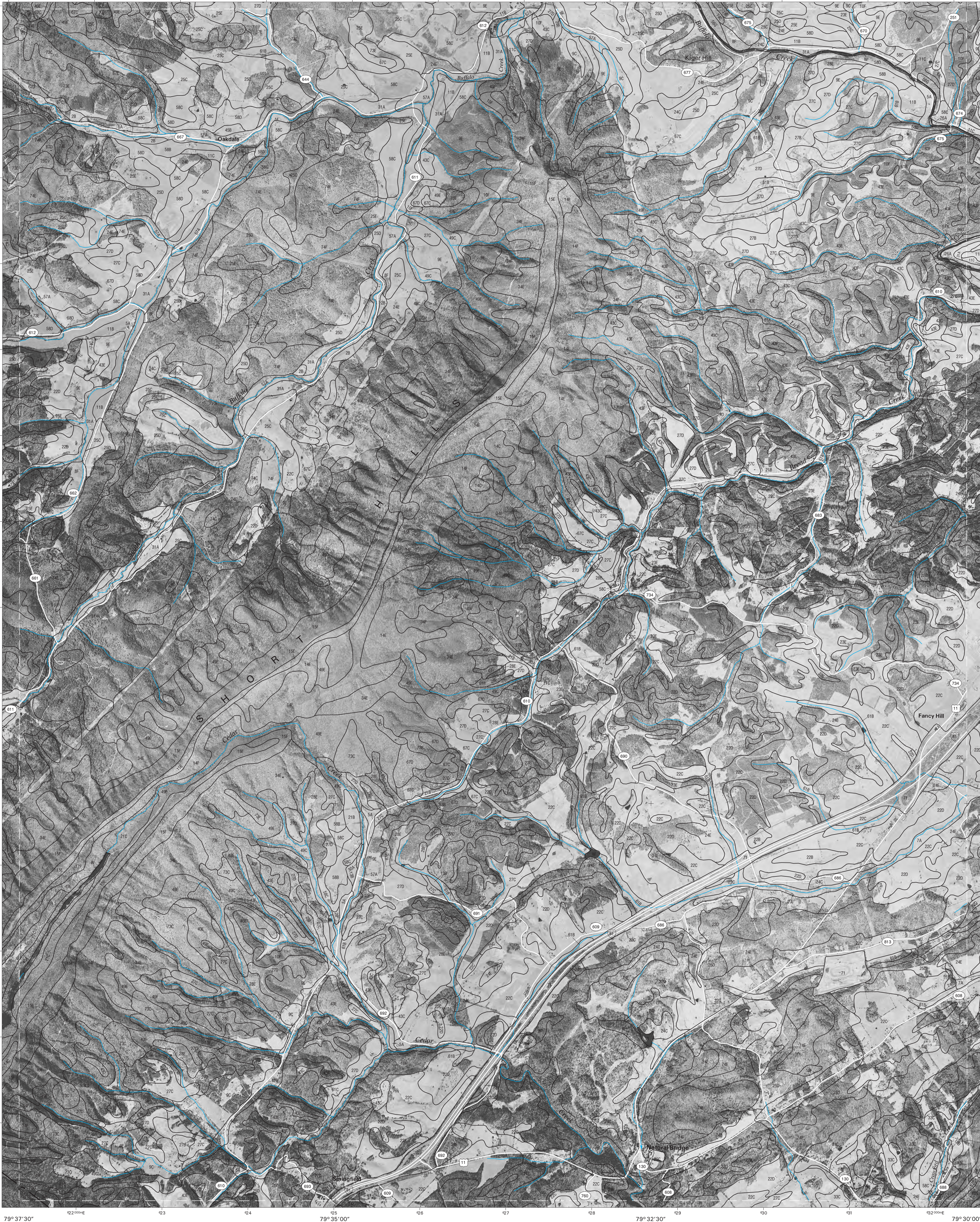
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Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.

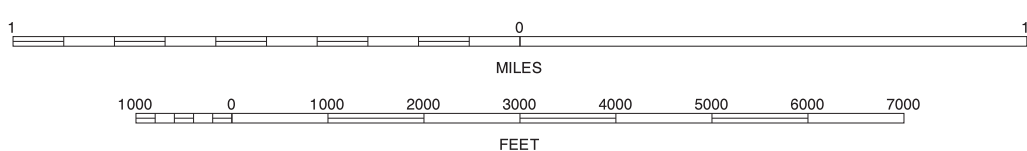




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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 17. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



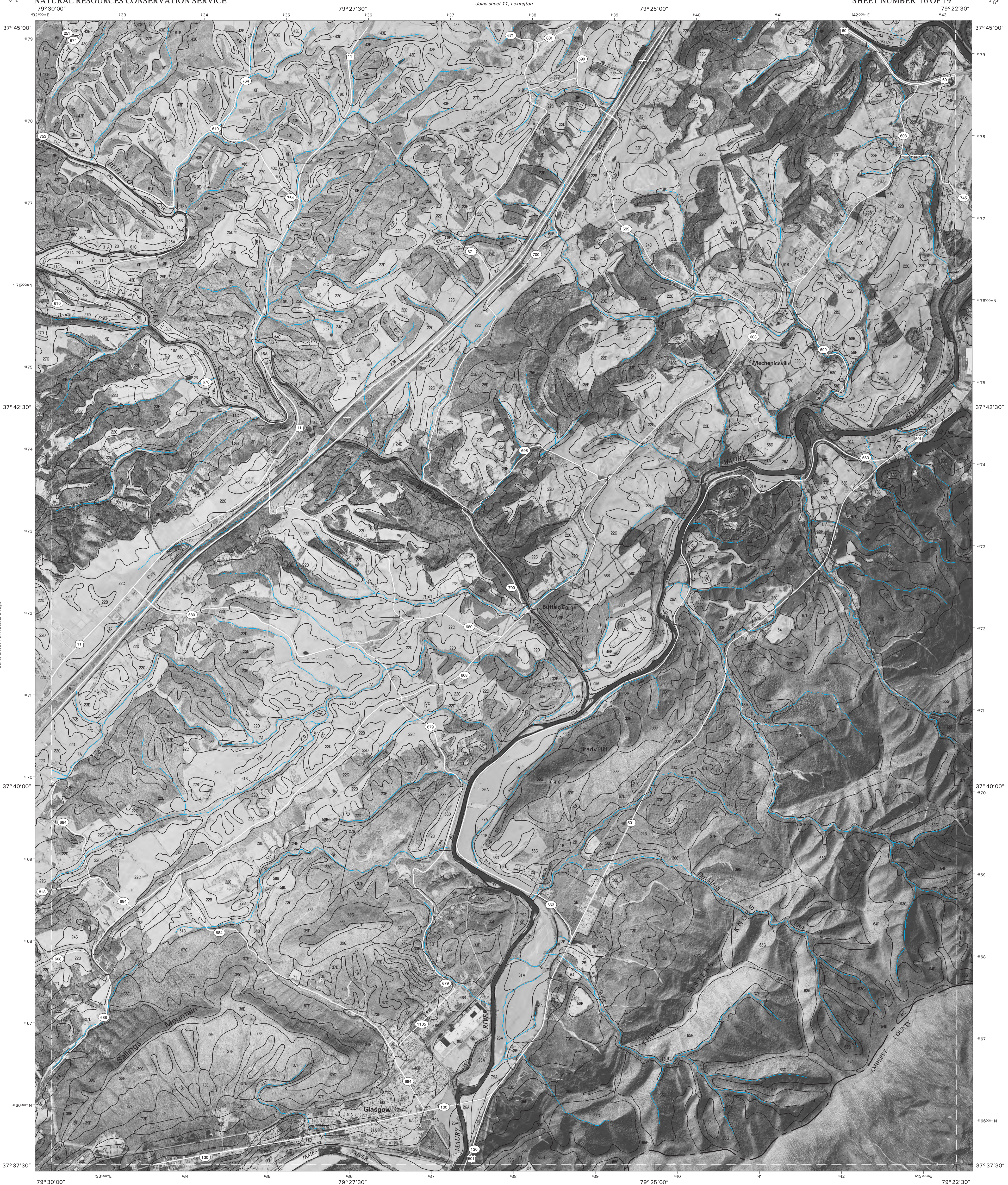
1 0 1 KILOMETERS

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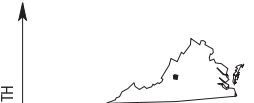
- 9 LONGDALE FURNACE
- 10 COLLIERSTOWN
- 11 LEXINGTON
- 14 SUGARLOAF MOUNTAIN
- 16 GLASGOW
- 18 ARNOLD VALLEY
- 19 SNOWDEN



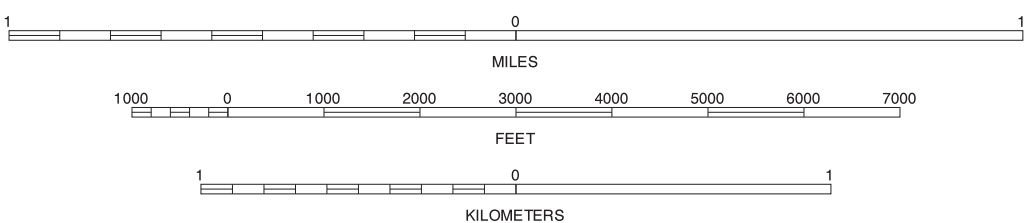


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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 17. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



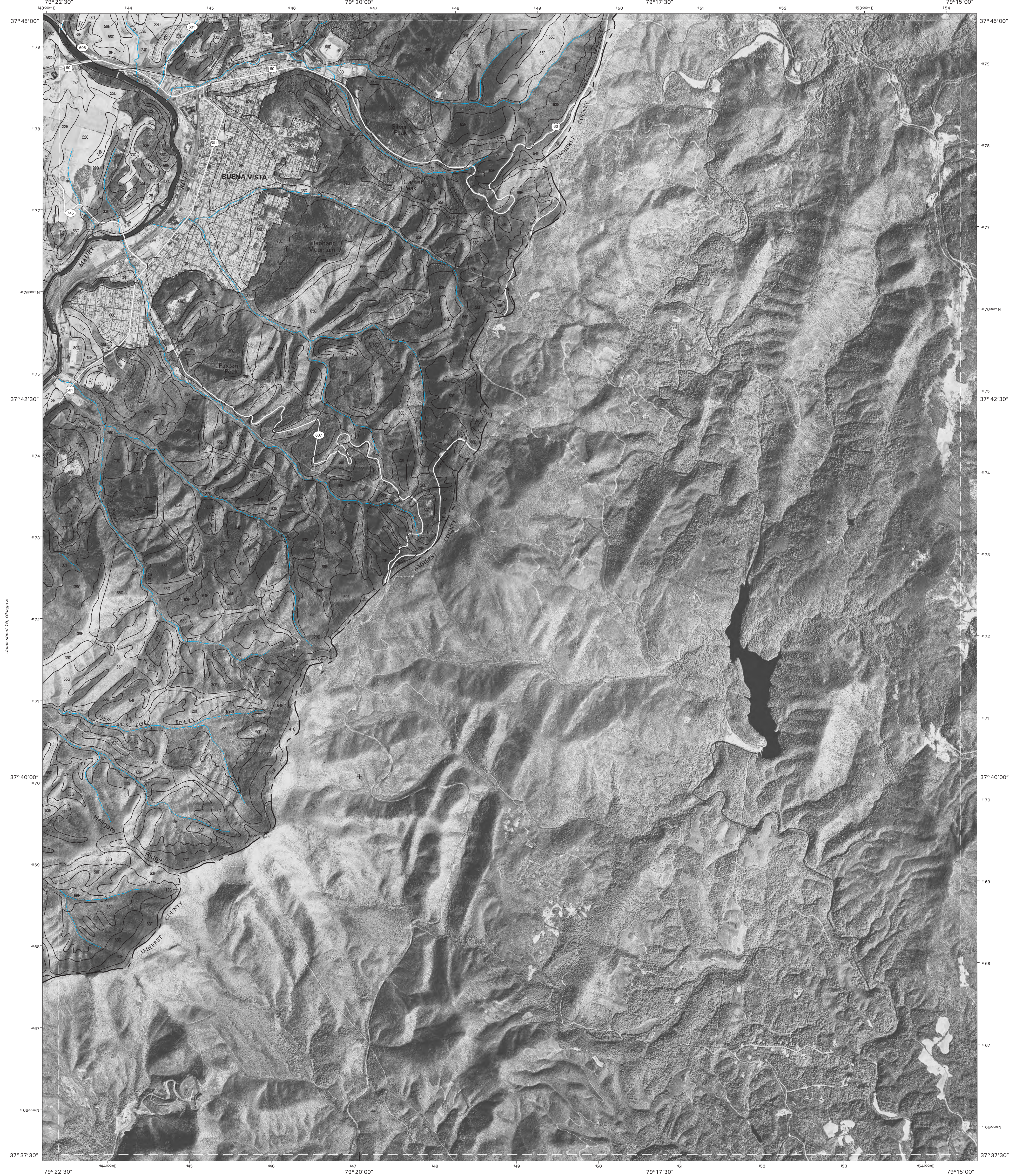
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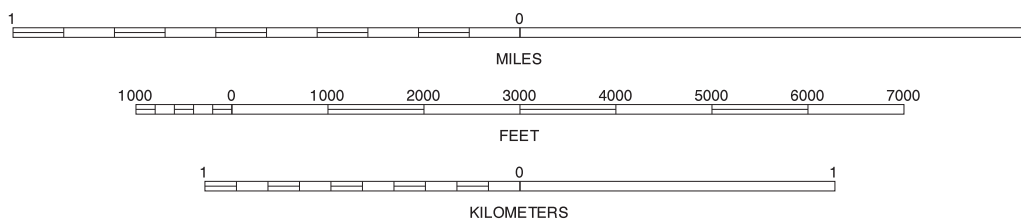
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NORTH



QUADRANGLE LOCATION

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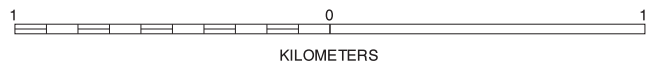
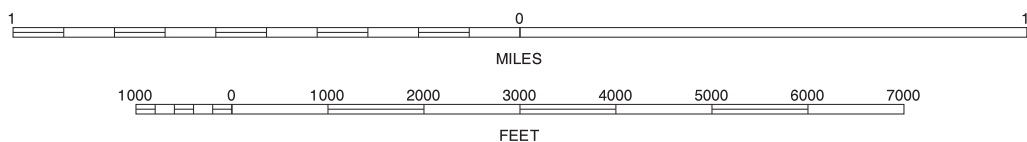
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 17. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION

SCALE 1:24000



14	15	16

14 SUGARLOAF MOUNTAIN  
15 NATURAL BRIDGE  
16 GLASGOW  
19 SNOWDEN

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7.5 MINUTE SERIES  
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Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.





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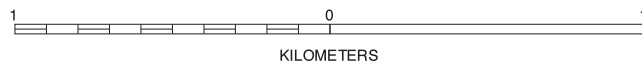
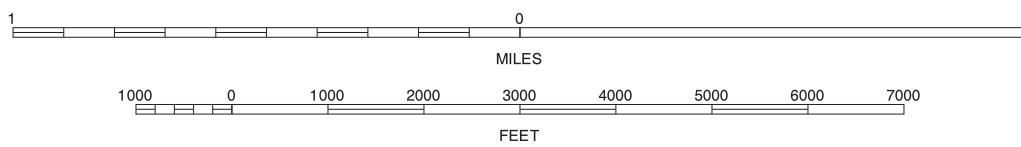
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 17. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION

SCALE 1:24000



15	16	17
18		

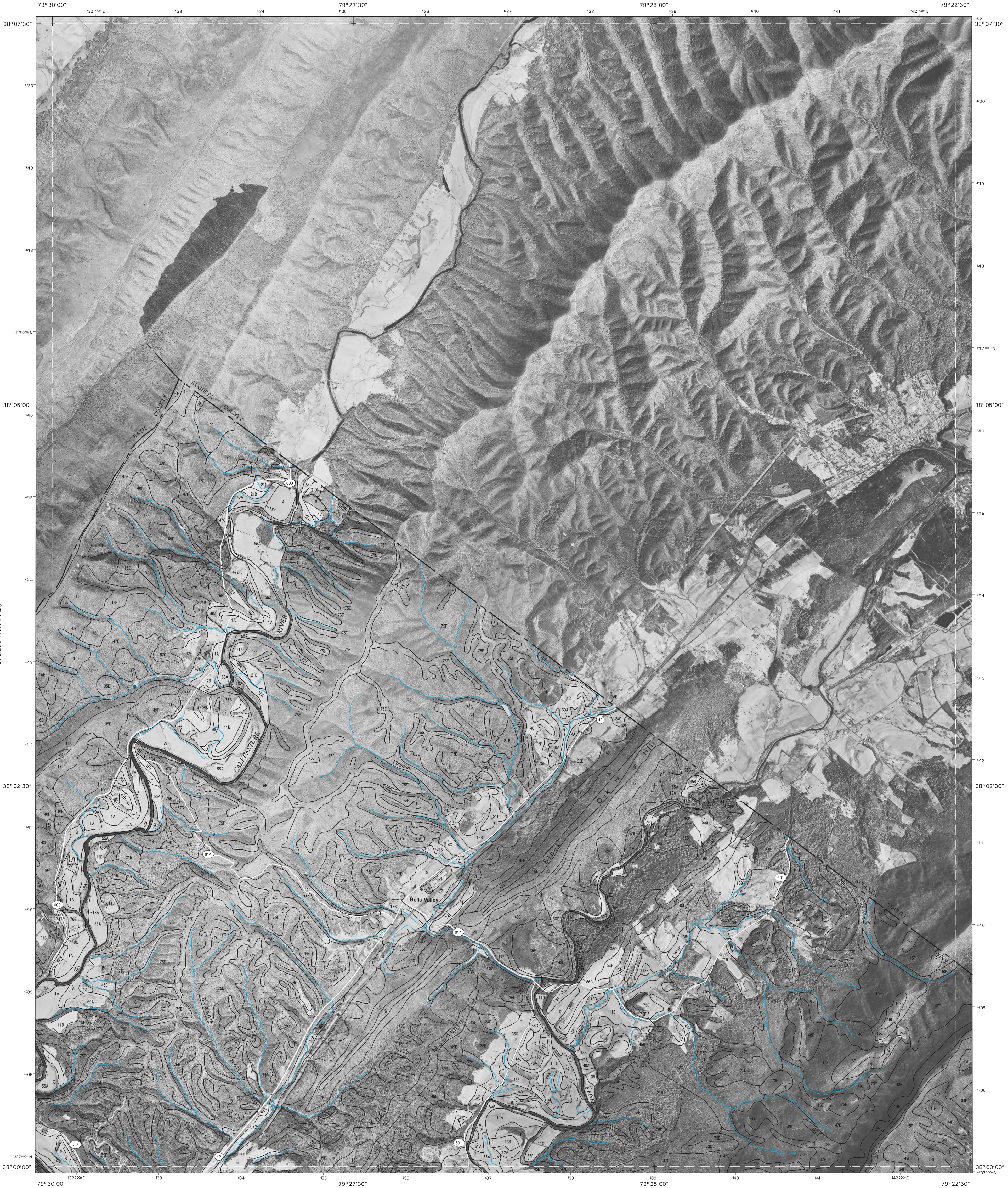
15 NATURAL BRIDGE  
16 GLASGOW  
17 BUENA VISTA  
18 ARNOLD VALLEY

INDEX TO ADJOINING 7.5 MAPS

SNOWDEN, VIRGINIA  
7.5 MINUTE SERIES  
SHEET NUMBER 19 OF 19

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.

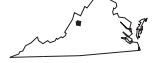




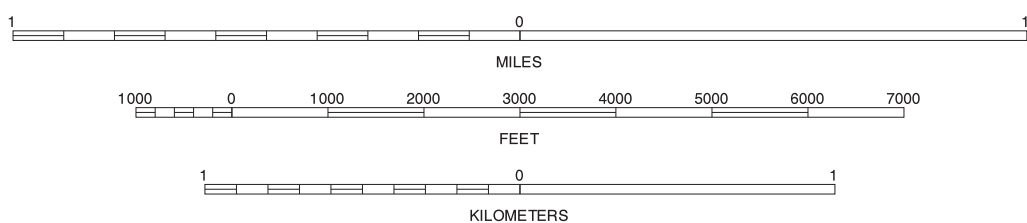
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NORTH



QUADRANGLE LOCATION



1	2	3
4	5	6
7	8	9

INDEX TO ADJOINING 7.5 MAPS

- 1 GREEN VALLEY
- 2 AUGUSTA SPRINGS
- 3 MILLBORO
- 4 GOSHEN
- 5 BROWNSBURG

CRAIGSVILLE, VIRGINIA  
7.5 MINUTE SERIES  
SHEET NUMBER 2 OF 19

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.





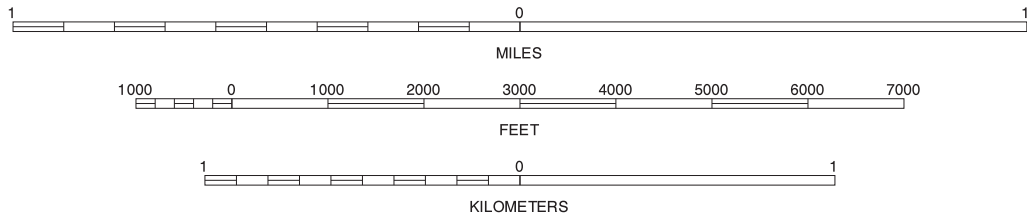
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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 17. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



2			2 CRAIGSVILLE
6	7	8	6 GOSHEN 7 BROWNSBURG 8 VESUVIUS

INDEX TO ADJOINING 7.5 MAPS

AUGUSTA SPRINGS, VIRGINIA  
7.5 MINUTE SERIES  
SHEET NUMBER 3 OF 19

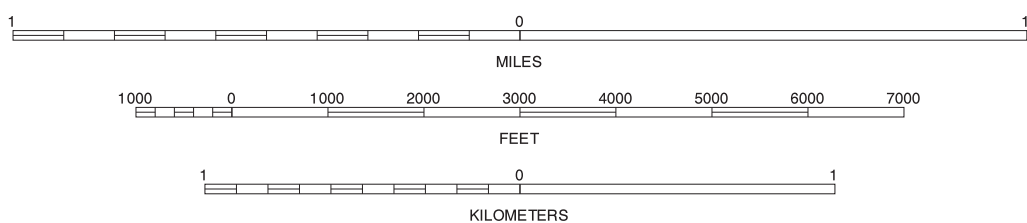
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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 17. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



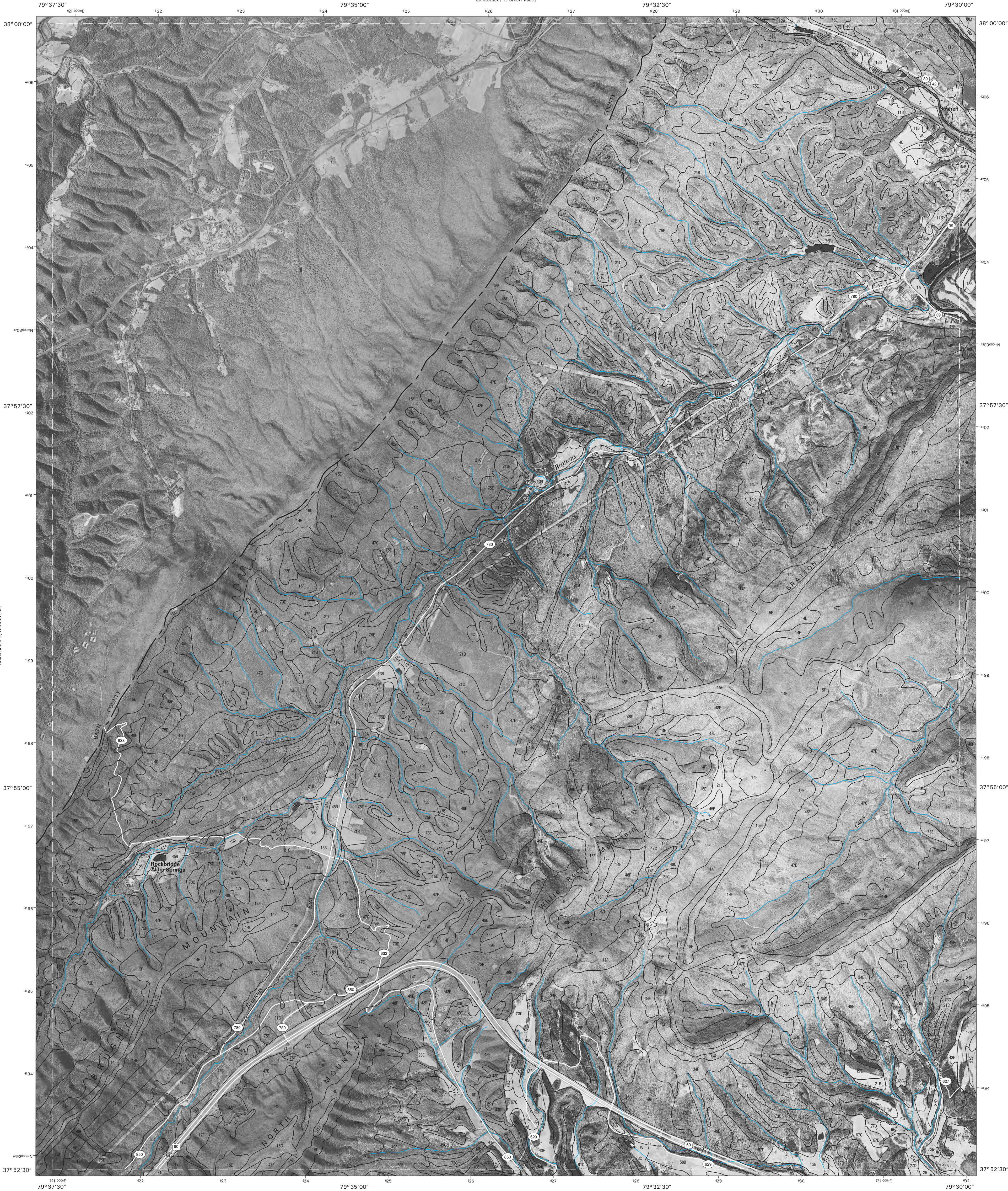
		1	1 GREEN VALLEY
	5	5 MILLBORO	
9	10	9 LONGDALE FURNACE	
		10 COLLIERSTOWN	

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NIMROD HALL, VIRGINIA  
7.5 MINUTE SERIES  
SHEET NUMBER 4 OF 19

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Joins sheet 4, Nimrod Hall

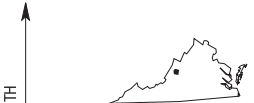
Joins sheet 6, Goshen

Joins sheet 9,  
Longdale Furnace

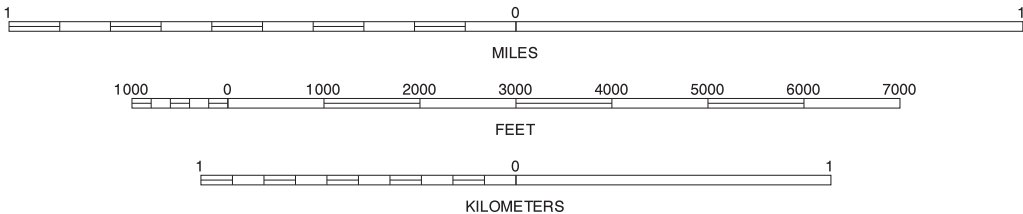
Joins sheet 11,  
Lexington

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QUADRANGLE LOCATION



SCALE 1:24000

1	2	3
4	5	6
7	8	9

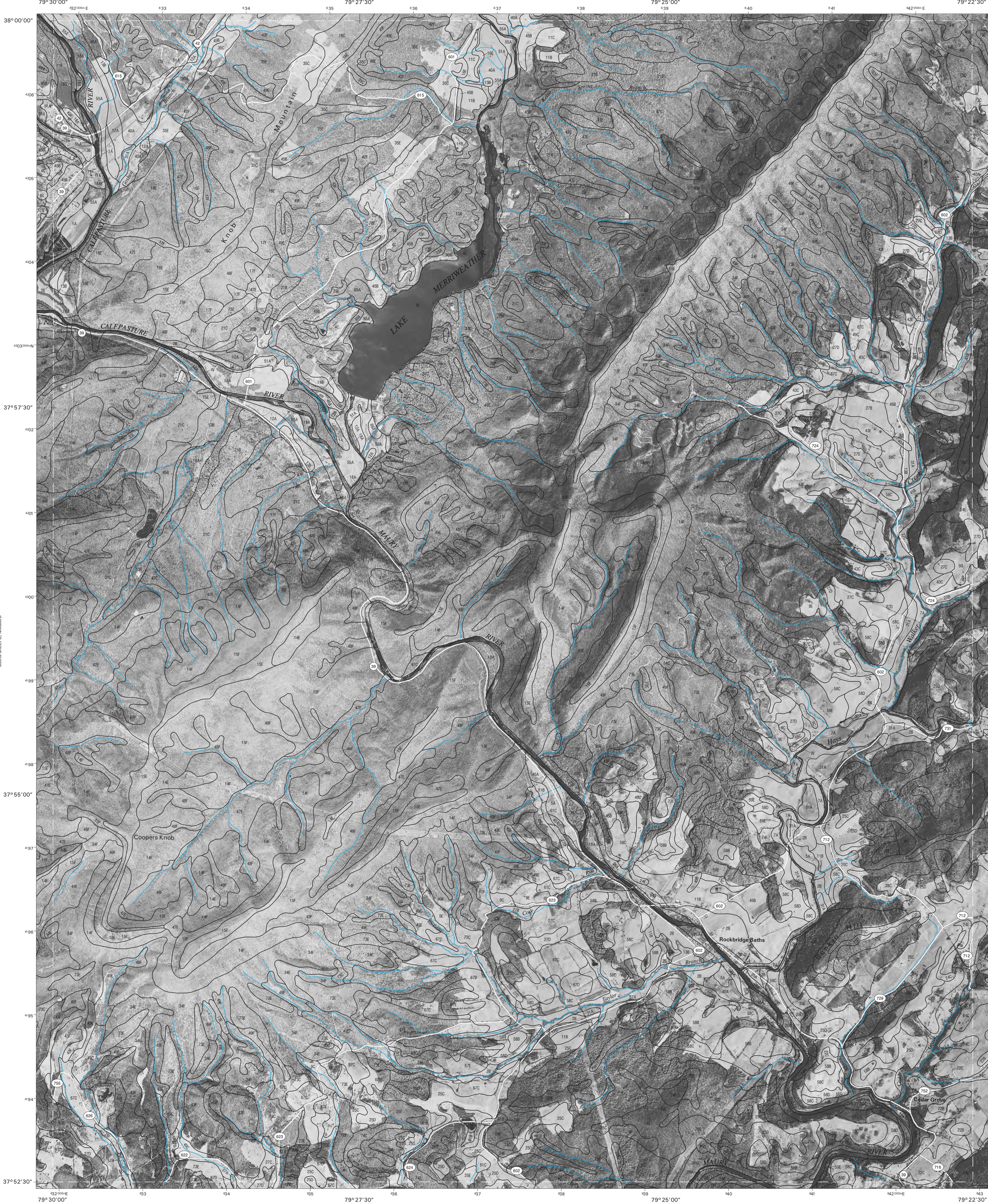
1 GREEN VALLEY  
2 CRAIGSVILLE  
3 NIMROD HALL  
4 GOSHEN  
5 LONGDALE FURNACE  
6 COLLIERTOWN  
7 LEXINGTON

INDEX TO ADJOINING 7.5 MINUTE MAPS

MILLBORO, VIRGINIA  
7.5 MINUTE SERIES  
SHEET NUMBER 5 OF 19

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 17. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

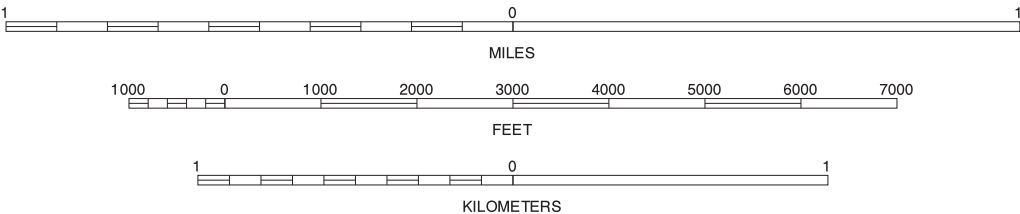
NORTH



QUADRANGLE LOCATION

Joins sheet 11, Lexington

SCALE 1:24000



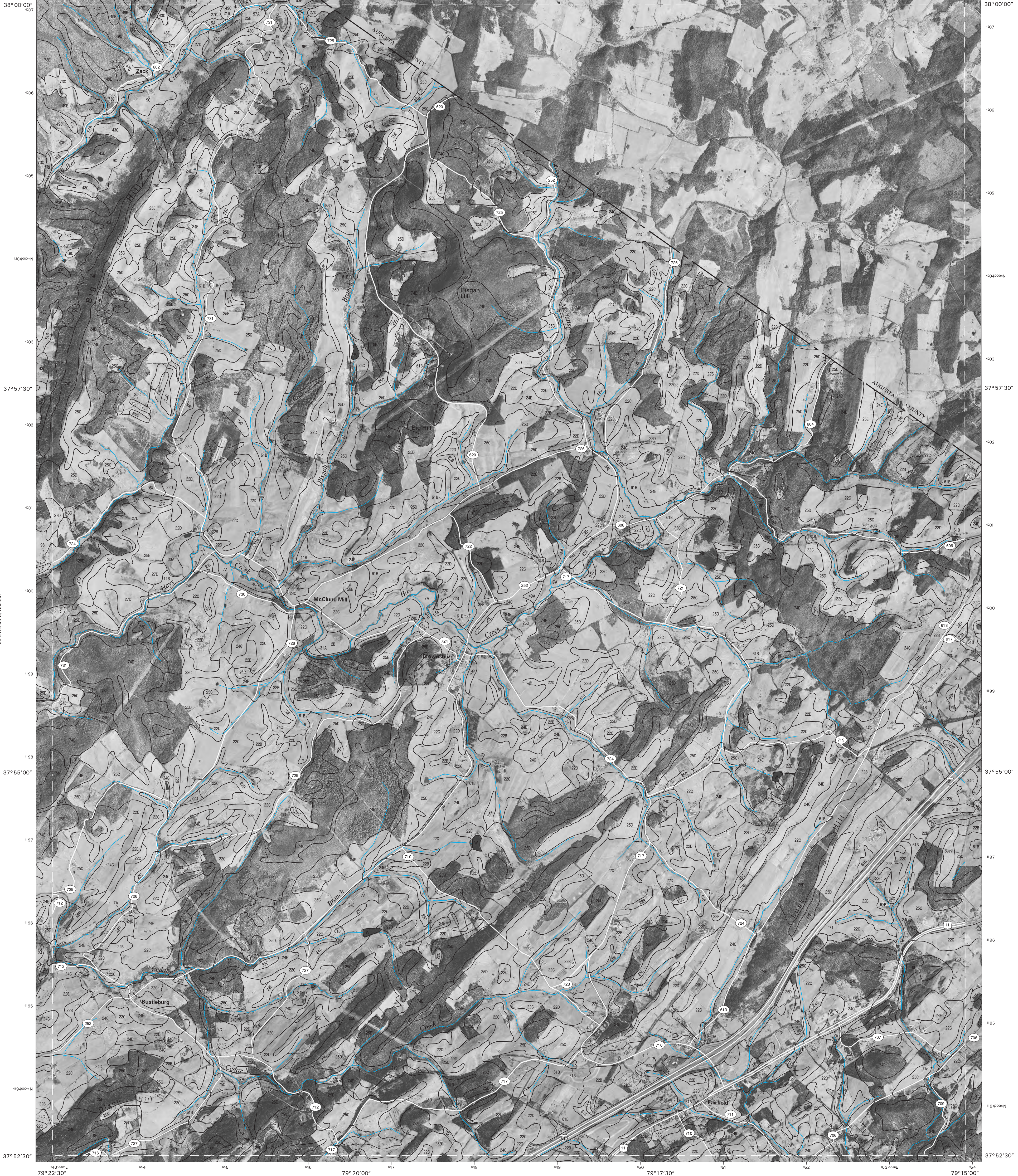
1	2	3
5	6	7
10	11	12

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GOSHEN, VIRGINIA  
7.5 MINUTE SERIES  
SHEET NUMBER 6 OF 19

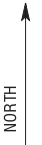
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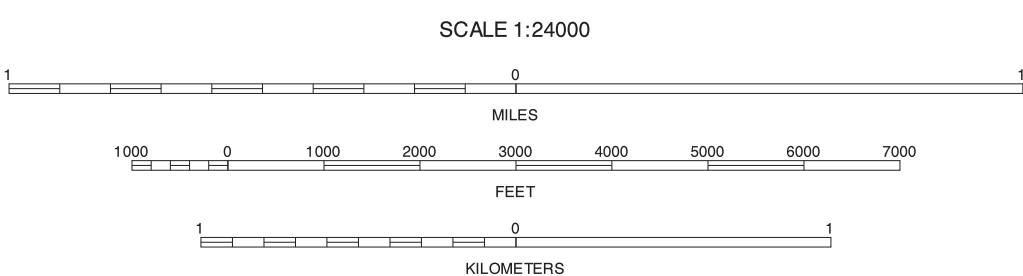


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QUADRANGLE LOCATION



2	3	4
5	6	7
8	9	10

2 CRAIGSVILLE  
3 AUGUSTA SPRINGS  
4 GOSHEN  
5 VESUVIUS  
6 LEXINGTON  
7 CORNWALL  
8 MONTEBELLO

INDEX TO ADJOINING 7.5 MAPS

BROWNSBURG, VIRGINIA  
7.5 MINUTE SERIES  
SHEET NUMBER 7 OF 19

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Joins sheet 12  
Cornwall

NORTH



1000 0 1000 2000 3000 4000 5000 6000 7000

300

INDEX TO ADJOINING 7.5 MAPS

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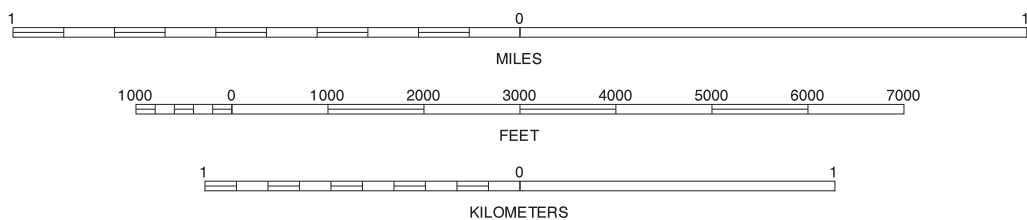
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NORTH



QUADRANGLE LOCATION



Joins sheet 14, Sugarloaf Mountain

	4	5	4 NIMROD HALL 5 MILLBORO
		10	10 COLLIERSTOWN
	14	15	14 SUGARLOAF MOUNTAIN 15 NATURAL BRIDGE

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LONGDALE FURNACE, VIRGINIA  
7.5 MINUTE SERIES  
SHEET NUMBER 9 OF 19

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